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SUBSTANCE USE & MISUSE

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School-as-Community Activity Selection at Continuation High Schools

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ABSTRACT

This paper describes two studies which together provide an example of an empirically based "school-as-community" development process used in a large-scale school-based drug use prevention trial among youth at continuation high schools in California. First, we generated a list of schools' current community involvement from 96 school personnel and 144 students from 20 continuation high schools. Second, we reduced the number of activities indicated, with some discussion, to a list of 12 populars. Then, we administered this list to a total of 388 students from six continuation high schools who provided perceived quality ratings. We generated six categories of activities from the results of these two studies. These studies reveal a means to determine activities likely to be completed by this school system and a means to limit the variability of activities which could be manipulated in an experimental trial involving a school-as-community component.

Key words. School-as-community

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INTRODUCTION

Project Towards No Drug Abuse (Project TND) is a five-year study which involves a three-group experimental field design, involving random assignment of 21 schools to standard care, classroom-based, or classroom-plus-community conditions. To develop the community component, an empirical development process was used (Sussman, 1991; Sussman et al., 1995a). In a school-based experimental study which involves a community component, one must be careful to manipulate the community component at one set of schools without contamination with a different manipulation at adjacent schools (e.g., classroom-based only). Organizing and motivating students themselves to make a limited reach outward to the larger community is one means of community involvement which potentially can allow for such empirical rigor [and is Recommendation #8 of the US Department of Education's Report, *Schools Without Drugs* (1992)].

This type of community involvement, reaching out into the community a limited movement outward, might be referred to as an "enhanced school environment" (e.g., Perry et al., 1990) or as a "school-as-community" (Mary Ann Pentz, personal communication). This approach views the school as an intact community which interacts with outside agencies, not a community-wide project that involves the school. Development of a school-as-community component was achieved among youth at continuation (alternative) high schools in southern California.

Continuation versus comprehensive (regular) high schools form a natural demarcation of youth who are at relatively high or low risk for substance use. When reaching high school age, those youth who are unable to remain in the comprehensive school system for functional reasons, including substance use, are transferred to a continuation high school. An implicit goal of a continuation high school is to help channel these students back into mainstream society. Effective substance use prevention programming for these studies is imperative for many of them to achieve the goal of being mainstreamed (i.e., returning to regular high school or at least learning more conventional values). Unfortunately, most prevention programming has not been adapted or applied to such students. Drug use prevention programming is solely needed because individuals at these schools may be at a critical juncture for either returning to the mainstream or transitioning to more problematic behaviors, including drug use. Thus, students from continuation high schools represent an underserved as well as high risk (for drug use) population (see Sussman et al., 1995b).

Community involvement of continuation high school youth may help enhance the effectiveness of school-based efforts in preventing substance abuse

through at least four means. First, community involvement may provide a channel to promote conservative attitude shifts within natural peer networks (e.g., Becker et al., 1989; Bickel, 1989; Swisher and Hu, 1983). Second, community involvement may provide these youth with a means of creating bridging ties to new, more conventional social groups (e.g., Johnson et al., 1990; MacKinnon et al., 1991; Pentz et al., 1989). Third, community involvement may provide a means of creating success experiences, which are sorely needed by these youth (e.g., as suggested by Tobler, 1986). Finally, community involvement may provide these youth with a subjective "ownership" of program ideals (giving them a sense of a "school community"; similar to the concepts of McMillan and Chavis, 1986).

Continuation high schools can achieve ongoing community involvement through the use of student groups. A major option is the Associated Student Body (ASB). The ASB, under teacher supervision, is the student governmental body at the continuation high school that, in those schools where it exists, organizes most student service and political involvement with the larger community. When utilizing the ASB to engage in school-as-community activities, the tendency might be for a research team to provide the "kitchen sink" approach to the school; that is, let the school ASB participants do whatever "drug abuse prevention" activities they want. The result may be a mixed application of activities which have little to do with drug use prevention. Moreover, there may be little measurement. An alternative model is to instruct the school on all the activities to implement. This approach probably would not work because of (a) variation in access to community resources across schools (e.g., if both rural and urban sites are contained in the same study, fewer resources may be available in the rural sites) and (b) such direct control may lead to a reduced sense of ownership by the school ASB and, consequently, less quality implementation by school liaisons.

Perhaps the best option would be to have school ASBs select an event from a menu of preselected event categories. In this way the researcher can control the types of events implemented, while the ASB selects the specific events—thereby providing experimental control and participant sense of ownership. The present studies provide information that would facilitate school ownership of activities as well as limit the number of choices offered to the schools. The first study explored the types of community-related activities engaged in by the available continuation high school sample, assessed of students and staff. The second study provided a list of 12 potential activities to continuation school students and obtained perceived quality ratings. The second study provided an evaluation of target activities already applied at least at some of the schools, as determined in the first study. Then, six categories of activities were selected which included specific events that are practical to

implement, have been implemented in some instances in the past with some success, and are preferred by students.

STUDY ONE: ONGOING COMMUNITY INVOLVEMENT

Method

School and Subject Selection

Schools. Through a stratified random selection procedure (with replacement), blocked by ethnic composition, size, and region, a total of 29 school districts (half rural, half urban areas) had been gathered in a previous study (Sussman et al., 1995a). All continuation high schools were selected from these districts during the last year of that study for potential participation in the present study. School participation was achieved through both district level office and principal approval, as obtained through meetings with our project manager (the second author). She had been working closely with the superintendents from these districts for the past six years, and her ongoing collaboration with these districts certainly facilitated acquisition of continuation high schools. All schools approached agreed to participate. The mean size of the 20 continuation high schools sites is equal to 230.4 students (SD = 191.8). Students are divided approximately evenly into three age groups (16, 17, and 18 years old).

Students. Six students per school (approximately one 16-year-old male and one 16-year-old female, one 17-year-old male and one 17-year-old female, and one 18-year-old male and one 18-year-old female) across 16 of 20 continuation high schools were randomly selected to be interviewed in the fall of 1992. Four of the 20 schools (mean n = 545.0, SD = 214.8) were much larger than the remaining schools (mean n = 151.7, SD = 59.4). At these larger schools, 12 students per school were interviewed. At all schools the project manager met with the school principal and, together, they examined a school list. Students were divided by age and gender. This resulted in approximately 30 students in an age–gender block (e.g., 16-year-old male). Next, the principal identified the students from each block who were at school that day (approximately 23 students within that block). Next, a student was randomly selected and approached for the interview. All but two students approached agreed to be interviewed.

Staff. The following types of personnel were targeted for selection at each school: teachers, counselors, administrator (the principal), and "other" personnel (janitors, coaches, cafeteria workers, or secretarial support staff). Four staff were interviewed from each of 16 of the 20 target continuation high schools. Eight staff were interviewed from each of the four larger schools.

Selection of administrators and counselors was exhaustive. Selection of teachers and other personnel was arbitrary, except that an attempt was made to select an equal proportion of each gender. Staff were interviewed on the same days as the students from their school.

Subject Characteristics, Interview Procedure and Measure

Background characteristics of students are shown in Table 1. Background characteristics of staff are shown in Table 2.

Table 1.

Student Characteristics (n = 144)

Gender:	
Male	51%
Ethnic composition:	
African-American	9%
Latino	44%
White	41%
Asian/other ethnicities	6%
Living situation:	
Both parents	47%
Mother/stepmother only	30%
Father/stepfather only	6%
Other person(s)	17%
Parents' education:	
Father: attended four year college	18%
Mother: attended four year college	6%
Father: some college/job training	15%
Mother: some college/job training	19%
Father: graduated from high school	26%
Mother: graduated from high school	30%
Father: attended some high school	22%
Mother: attended some high school	30%
Father: less than eighth grade	12%
Mother: less than eighth grade	11%
Father: missing data	7%
Mother: missing data	4%
Age:	
Mean years (range = 15–19, SD = 0.8)	16.9
Weekly drug use:	
Cigarettes	51%
Alcohol	55%
Marijuana	41%
Stimulants	16%
Length of time at that school:	
Mean months (range = 0.5–40.0, SD = 8.6)	9.8

Table 2.

Staff Characteristics (n = 96)

Gender:	
Male	48%
Ethnic composition:	
African-American	8%
Latino	10%
White	73%
Asian/other ethnicities	9%
Staff position:	
Teachers	36%
Counselors	17%
Administrators	21%
Other (janitorial, security, cafeteria, secretarial)	26%
Age range:	
Years	23–62
Length of time at that school:	
Mean years (range = 1–33, SD = 6.6)	7.4

The students and staff were interviewed by one of four trained health educators/data collectors, including a 25-year-old White male, a 38-year-old White male, a 29-year-old Mexican-American female, and a 45-year-old White female. These data collectors shared extensive experience in the field of education and a background of working with high risk students. Their degrees ranged from A.A. to Ph.D., including course work in administration, education, psychology, sociology, or "drug abuse" prevention. Both students and school personnel were interviewed individually in private. They were instructed that the interview would take about 30 minutes, that participation was voluntary and they could withdraw participation at any time without penalty, that their name would not be recorded, and that their responses would be treated as anonymous data. They also were instructed that the purpose of the interview was to learn about continuation high school structure and function to assist in the later development of "drug abuse" prevention programming. Also, they were instructed that they were the experts and that the data collectors were there to learn from them. Several of the questions assessed are reported elsewhere (Sussman et al., 1995b). One open-ended question asked of students was "Are there any community social activities that students at your school participate in? Please specify." One open-ended question asked of staff was "What community services interact with your school?" These two questions served to assess ongoing community contacts with the schools.

Results

Responses of students and staff to the two open-ended questionnaire items are shown in Tables 3 and 4. Simple frequencies of the number of schools (of 20) which engaged in the activity were tabulated. Responses were categorized by three categories: 1) service/work, 2) activism/government, and 3) recreation, based on discussions with community experts (see Sussman et al., 1994). Of the 20 schools assessed, the only community-related activities reported by

Table 3.

Summary of Student Reports across 20 Schools[a]

Activity	Number of reports
Service/work:	
Tutorial program	2
Career speakers or Army talks	2
Alcoholics Anonymous/Narcotics Anonymous	2
Volunteer work (e.g., homeless)	2
Vocational training (Regional Occupational Program—R.O.P.)	2
"Our town" service club	1
Workshops (different groups)	1
Car wash	1
Ride with police	1
Red Cross	1
Kiwanis Club	1
Activism/government:	
Yearbook (fund raising)	1
Local papers	1
School newspaper	1
Lunch at church (fund raising)	1
Recreation:	
Volleyball	5
Field trips	2
Softball	2
Basketball	2
Soccer games	1
Local playhouse	1
Hiking	1
Football	1
Carnivals and swap meets	1
"Sports"	1
Christmas caroling	1

[a]School is the measurement unit.

Table 4.

Summary of Staff Reports across 20 Schools[a]

Activity	Number of reports
Service/work:	
Family and youth services	13
Health department services	11
Police/Sheriff programs	10
Church/charities, such as for the homeless	8
Vocational training (Regional Occupational Program—R.O.P.)	7
Local business involvement	5
Drug agency services	5
"Drug abuse" or AIDS speakers and films	3
Tutoring programs from local colleges	3
Welfare	3
Red Cross	2
Fire department	2
Hotlines	2
Alcoholics Anonymous/Narcotics Anonymous	2
Tough Love	1
Dropout intervention	1
Military base speaker	1
Luv diversion	1
Interface	1
Optimist Club	1
Rape crisis speaker	1
Human resources	1
Seroptomos	1
Head Start	1
Hospitals	1
American Cancer Society	1
Homeless shelter	1
Straight Talk	1
Activism/government:	
Rotary Community Club (fund raising)	7
Kiwanis Community Club (fund raising)	7
Planned Parenthood	4
Parent advisory committee	4
Women's League/Club	2
Red Ribbon/Just say NO	2
Action	2
Against gangs group	1
Our Town	1
Elks Club (fund raising)	1
Lions Club (fund raising)	1
Youth of the Month	1
Moose Lodge	1

Table 4. *Continued*

Activity	Number of reports
Recreation:	
Parks and Recreation services	6
Teen Center	2
Friday Night Live Organization	1
Local playhouse	1
Swap meet	1

[a]School is the measurement unit.

students at 3 or more schools was volleyball (5 schools). This highlights, perhaps, the feasibility of having a sports league as a recreational activity. The only activities mentioned by students at 2 schools were softball or basketball games (2 schools each), field trips, tutorial programs, Narcotics Anonymous (NA)/Alcoholics Anonymous (AA) speakers, career speakers or Regional Occupational Program (ROP; a vocational training program based in southern California), and volunteer work.

Staff at 3 or more schools reported awareness of family counseling/involvement services (13 schools), health department referrals (11 schools), police-related programs (10 schools), church-related charities or volunteer work (8 schools), Rotary or Kiwanis Clubs for donations and volunteer work (7 schools each), ROP job training (7 schools), involvement with the local parks and recreation (6 schools), involvement with local business (5 schools), local "drug abuse" agency services (5 schools), parent advisory committee (4 schools), planned parenthood speaker (4 schools), "drug abuse" or AIDS speakers or films (3 schools), tutoring programs (3 schools), and involvement with the welfare department (3 schools).

STUDY TWO: PREFERENCES FOR DIFFERENT COMMUNITY ACTIVITIES

Method

Subjects

A total of 388 students from six continuation high schools were provided with a pretest-activity–posttest component study protocol in the fall of 1993. Background characteristics of the students are shown in Table 5. The sample is the same as in another paper (Sussman et al., in press), although the

Table 5.

Sample Characteristics (n = 388)

Gender:	
Male	59%
Ethnic composition:	
African-American	6%
Latino	54%
White	28%
Asian/other ethnicities	12%
Living situation:	
Both parents	44%
Mother/stepmother only	27%
Father/stepfather only	7%
Other person(s)	22%
Parents' education:	
Father: completed four year college	16%
Mother: completed four year college	12%
Father: some college/job training	14%
Mother: some college/job training	21%
Father: graduated from high school	29%
Mother: graduated from high school	31%
Father: attended some high school	26%
Mother: attended some high school	25%
Father: less than eighth grade	7%
Mother: less than eighth grade	6%
Father: missing data	8%
Mother: missing data	5%
Age:	
Mean years (range = 15–19, SD = 0.8)	16.7
Weekly drug use:	
Cigarettes	53%
Alcohol	37%
Marijuana	43%
Stimulants	12%
Length of time at school:	
Mean months (range = 0.5–40.0, SD = 10.1)	9.9

variables examined and the substantive contents of the two papers are different.

Procedure and Instrument

Six classes were selected randomly from each of five schools, and two classes were selected randomly from a sixth school, to be involved in the present evaluation. The last page of the pretest of another study, involving a

curriculum development evaluation (Sussman et al., in press [a]), contained the community activity preference evaluation. Data collectors included two of the four persons who collected the data in the first study (the two females) with similar instructions being provided to subjects. Students were instructed that the pretest questionnaire would take about 15 minutes, that their name would not be recorded, and that their responses would be treated as anonymous data. The participation decline rate was 3%.

Each activity, on a list of 12 activities, was rated regarding perceived interest (3-point scale; "very" = 1, "somewhat" = 2, and "not at all" = 3), helpfulness (on the same type of 3-point scale), and willingness to participate in the activity ("Would you do it?"; "yes" = 1 or "no" = 2). The activities included riding along with police, riding along with paramedics, doing a parent–child bake sale, doing a swap meet, learning how to get and keep jobs, removing graffiti from walls, doing a chalk-on-the-sidewalk contest, forming a sports league, starting a drama group, having drug-free dances, working with a local newspaper, and going on field trips. Nine of the 12 activities had been generated by staff and youths in the first study, and all but one of them were among the most popularly mentioned across schools. Participation with a local newspaper, while only mentioned by students at one school, was added as a potential means to uplift the image of continuation high schools in the community (if it was selected as a desired activity). In addition, riding along with paramedics was added as an alternative to riding along to the police. The bake sale was added as an attempt to involve families. Finally, the chalk-on-the-sidewalk (sidewalk chalk art drawings) contest was added to provide ratings of a novel artistic recreational activity.

Results

The questionnaire response categories and mean ratings on these activities are shown in Table 6. The willingness to participate value was converted to a percentage "yes" score to make this response more easily interpretable. A conservative critical value which indicates a significant difference between the ratings of the activities is 0.2 for the 3-point scales and 0.04 or 4% for the 2-point scale. To clarify, since a total of 66 comparisons of activities was completed for each scale, we used the Bonferroni correction for alpha inflation which resulted in a $p < .001$ to indicate a minimally significant difference using a *t*-test. Any two activities can be compared using these critical difference values. Riding along with the police or paramedics subsequently was discovered as only being legal for youths 18 years old and older. Since two-thirds of the students would be under 18 years of age, these two categories were removed for consideration as a school-as-community activity. The seven activities perceived as most helpful (removing riding along with police or para-

Table 6.

Perceived Efficacy-Related Ratings of 12 Selected School-as-Community Activities

Activity	Interest (mean rating)[a]	Helpfulness (mean rating)[a]	Would you do it? (% yes)
Learn how to get and keep jobs	1.49	1.47	83
Going on field trips	1.58	1.69	80
Ride along with paramedics	2.08	2.02	58
Form a sports league	2.08	2.02	53
Work with a local newspaper	2.28	2.25	46
Remove graffiti from walls	2.45	2.25	33
Have drug-free dances	2.38	2.28	33
Ride along with police	2.29	2.30	45
Do a swap meet	2.48	2.39	38
Start a drama group	2.52	2.40	28
Do a parent/child bake sale	2.59	2.49	27
Have a chalk-on-sidewalk contest	2.63	2.61	21

[a]The mean ratings are rank ordered by the helpfulness item.

medics) were job skills training, going on field trips, forming a sports league, working with a local newspaper, removing graffiti, participating in drug-free dances, and holding a swap meet (or other fund raisers).

General Discussion

These seven activities were further considered through discussion with community experts (Sussman et al., 1994), and were elaborated on as follows to maximize flexibility of activity selection while maintaining six types or classes of activities that could be delivered across schools in a school-as-community condition. First, regarding *job training*, one could provide a variety of specific information regarding how to get and keep jobs. The ASB could provide someone to instruct resume preparation, job interviewing, grooming techniques/self-presentation, drug-free workplace issues, or job selection and requirements. This could be an ongoing activity.

Second, regarding *field trips*, possible locations include a juvenile corrections facility, hiking, IMAX theater, beach dance, or whale watching. This probably is a one-shot activity due to transportation costs, the need of at least two staff to supervise any event, and entails other financial limitations (e.g., bus rental). Still, some field trips may be repeated once a month, such as visits of students to a prison (see Sussman et al., 1994).

Third, regarding *sports competitions*, volleyball, basketball, and software are preferred activities. A within-school league could be accomplished (two to

four teams of nine or ten people per team); most schools are too far away from each other to form a between-school league (transportation, supervision, and liability costs would be too high). Other possibilities include creating a bowling league or a between-school contest which does not require moving from school to school, such as a funniest school video contest or a video games point total contest. This would be a somewhat time-limited activity (several month "competitive season").

Fourth, regarding activism concerns, creation of a weekly or monthly *newspaper* column is a possibility. As examples, a newsletter to permit self-expression and summarize other ongoing community events could involve multiple schools. Having a continuation high school student write an article or column for a community paper also could help upgrade the image of the local continuation high school. Articles in the continuation high school paper to summarize various anti-drug and pro-school activities could be considered, as well. Alternative activism activities include *cleaning off graffiti* in the community, or environmental concerns such as recycling. This could be an ongoing activity at the school.

Fifth, *drug-free dances and raves* have been successfully accomplished at some schools; one also could establish dance classes through a community agency to teach hip hop and other dances. This might be offered three times per year as a series of seven-week lessons.

Finally, regarding fund raising, *swap meets*, garage sales, car washes, and auctions are possible means to raise funds for other community activities such as field trips, generating a student business, or to purchase sports equipment. These fund raisers could be spaced out such that four occur per year.

The above list was used to generate a training manual which was piloted at two large continuation high schools. The design of the pilot study consisted of a qualitative approach, involving meetings with staff persons from each of the two schools to help refine and implement the procedure. The two schools were recruited outside of the target sample so as to not confound the study design to be implemented the subsequent year. Details of the community pilot study are reported elsewhere (Sussman et al., 1994). In brief, we learned that a school-as-community component was feasible at continuation high schools, but that schools needed to be monitored and reinforced to facilitate implementation of programming, and a nonchanging/stable administrative structure was important to facilitate approval for and engagement in activities.

In addition, several procedural details regarding the formation of a school-as-community component were addressed in the pilot study. In particular, we needed to consider ASB core group formation and functioning. Second, we also needed to consider receptivity of students and staff to implementing this component. Finally, we needed to communicate clearly our expectations of the roles we desired ASB members and staff at the schools to serve.

Regarding establishing ASBs, we found that steps to create an effective ASB group included: 1) identifying the need for existence of this group to the school principal and other gatekeepers (e.g., district officials), or identifying the need to extend the scope of the existing ASB group to contend with the issue of drug use, and gaining the agreement and support of gatekeepers to create or expand this organization; 2) identifying an adult advisor for this group; 3) organizing initial student meetings after some recruitment efforts have been made through use of flyers, posters, "PA" announcements, and word-of-mouth; 4) selecting a core student board including a chair, treasurer, and secretary; 5) choosing the main community targets; 6) selecting specific events and goals to work on; and 7) creating *success experiences* for students both at the school and with the chosen community groups. This organizational process is not unlike large-scale community models (e.g., Elder et al., 1986).

When considering student receptivity, we needed to recognize that when implementing a school-as-community program with continuation high school youth, as with any high risk population, it is best to view these students as an untapped resource to the community, and as one passed over in drug use prevention. It is not productive to think of them as a problem population when developing this component; they are underserved students who are at alternative schools for a variety of reasons. A positive attitude is essential for student involvement and ownership. It is doubtful that they would want to be involved if approached by others as being those of high risk.

Also, we needed to consider receptivity of our staff persons. Some compensation was considered and approved for them ($1,000.00 per school year). Also, staff persons needed clarity regarding what was meant by the word "community." Definitions of "community" may include reference to a geographic region, a social structure (e.g., with various target groups), interaction among parts of that structure, any number of combinations of the above, as well as a limited movement outward from the school (e.g., see Koepsell et al., 1992). They were instructed in the school-as-community approach, which they perceived as an understandable and manageable structure.

Finally, we needed to be clear with our students and staff persons regarding our expectations of their performance with the project. There are two primary perspectives regarding the type of approach to community action. One model is a research model, the other is experientially based (the empowerment model). The former involves a theoretical basis, a specific target group, specific goals, and tends to be a top-down model (e.g., Pentz et al., 1989). The latter involves community partnerships; the changers decide what will be done after they receive the necessary resources. The latter model can be bottom-up. It typically is not research-based, because those who are empowered tend not to be researchers, although a research-oriented empowerment model is possible

(e.g., Wallerstein, 1992). It is important to be aware of drifting (i.e., shifting emphasis on topics having nothing to do with drug use prevention). An empowerment model is more likely to lead to drifting. We were careful to describe our project as a research type. We encouraged every ASB meeting and activity to address some aspect of drug use prevention. We cautioned staff persons against the potential for drifting. We even provided rating forms to be completed by staff and students at every ASB meeting and at every event to document discussions and progress of the group, and indicate relevance of the meetings and events to drug use prevention, as well as document intergroup variability across schools.

While not the only means of developing a community component of a drug use prevention field trial, the present target population-oriented empirical development process provided some means of selecting activities removed from the biases of a small group of "experts." Of course, there also is the possibility that youths' or staffs' preferences may be in error; that they are not capable of selecting material that is helpful for them. Our experience is that youths are good consumers of their own health behavior, and that staff personnel also have a reasonable idea regarding what would be helpful to their students (e.g., Sussman et al., 1995a). The fact that both student and staff perspectives are utilized increases the chances that the school-as-community component will be implemented well across schools.

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RESUMEN

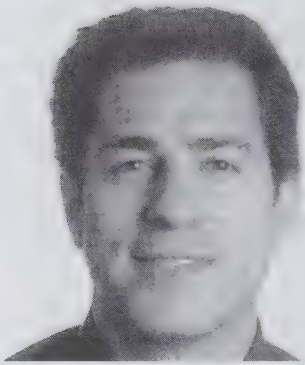
Este reporte describe dos estudios que juntos brindan un ejemplo de un proceso de desarrollo "escuela como comunidad" de base empírica. Este proceso fue empleado en un ensayo de prevención de abuso de droga de gran escala basado en las escuelas, entre jóvenes que asisten a escuelas secundarias de continuación en California. Primero, generamos una lista para determinar la comunitaria ac-

tual de las escuelas sobre la base de 96 miembros del personal y 144 estudiantes de 20 escuelas secundarias de continuación. Como segundo paso, se redujo el número de actividades indicadas, con algo de debate, a una lista de las 12 más populares. Luego distribuimos esta lista a un total de 388 estudiantes de seis escuelas secundarias de continuación, que brindaron las evaluaciones sobre la calidad percibida. Los resultados de estos dos estudios nos permitieron crear seis categorías de actividades. Estos estudios revelan un medio para determinar actividades con probabilidad de ser completadas por este sistema escolar y un medio para limitar la variabilidad de las actividades que podrían ser manipuladas en un ensayo experimental que contenga un componente de "escuela como comunidad".

RÉSUMÉ

Ce rapport décrit deux études qui s'unissent pour fournir un exemple d'un processus de développement "école-communauté" à fondement empirique. Ce processus est employé dans un essai à grande échelle portant sur la prévention de la drogue dans les milieux scolaires, parmi les jeunes qui fréquentent les écoles de continuation en Californie. Tout d'abord, nous avons crée une liste établissant la participation communautaire actuelle des écoles sur la base de 96 membres du personnel scolaire et de 144 élèves, dans 20 lycées de continuation. Ensuite, après discussion, nous avons réduit le nombre d'activités aux 12 les plus populaires. Nous avons alors donné cette liste à 388 étudiants provenant de six lycées de continuation, qui ont évalué la qualité perçue. Les résultats de ces deux études nous ont permis de créer six catégories d'activités. Ces études révèlent un moyen pour déterminer quelles sont les activités susceptibles d'être complétées par ce système scolaire, ainsi que pour limiter la variabilité de celles qui pourraient être manipulées dans le cadre d'un essai expérimental comprenant une constituante "école-communauté".

THE AUTHORS



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Withdrawal Symptoms and Previous Attempts to Quit Smoking: Associations with Self-Efficacy

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ABSTRACT

This study examined the relationship between self-efficacy and sustained smoking cessation in Dutch quitters attending a group program for smoking cessation in 1991. Increase in self-efficacy during treatment was found to be a predictor of outcome after controlling for demographic characteristics and cessation history variables. Relapsers (n = 75) showed more negative relationships between self-efficacy and withdrawal symptoms than long-term abstainers (n = 58). Relapsers who were more depressed during the attempt under study were less self-efficacious at the end of treatment. In addition, the duration of the previous attempt to quit smoking proved to be differently associated with self-efficacy for quitters and relapsers.

Key words. Self-efficacy; Withdrawal symptoms; Smoking cessation

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INTRODUCTION

Withdrawal symptoms have been found to predict smoking status in the long run, both in treated cases (Carmody, 1990) and among self-quitters (e.g., Gritz et al., 1991). Killen et al. (1992) found "craving" for cigarettes to be predictive of relapse at follow-up after one year. On the other hand, Hughes et al. (1991) found no predictive power of withdrawal. Apart from this, several studies demonstrated that the duration of previous attempts to stop smoking was associated with smoking status at follow-up (Mothersill et al., 1988; Stuart et al., 1994). In addition, Hallett and Sutton (1988) and Stuart et al. (1994) found that maintainers had had fewer attempts to quit as compared with relapsers.

An explanation for the power of previous attempts and withdrawal symptoms to predict smoking status may be found in their influence on self-efficacy expectations. Bandura (1977, 1986) stated that self-efficacy is based on the cognitive processing of information referring to specific actions. Self-efficacy is thought to be greatly affected by previous experiences. Condiotte and Lichtenstein (1981) concluded that pretreatment self-efficacy in abstaining from smoking was not associated with success, although end-of-treatment self-efficacy did corresponded with abstinence. This result has been confirmed by many other studies (e.g., Brandon et al., 1990; also see Table 1). However, Baer et al. (1986) and Sperry and Nicki (1991) concluded that "concurrent smoking" was an equally powerful if not even better predictor of future smoking behavior than self-efficacy. This apparent contradiction may be explained from the fact that the sample in the latter studies included all those participating in the treatment whereas the first group of researchers referred only to short-term quitters when reporting their results. See Table 1 for a review.

Although little research has been performed concerning the determinants of self-efficacy in smoking cessation, several studies have shown that attributional processes affect self-efficacy (Eiser et al., 1985; Schoeneman et al., 1988; Grove, 1993). As far as we know, Baer et al. (1986) have been the only researchers to report on the relation between self-efficacy and withdrawal symptoms. They found no correlation between an overall measure of physical withdrawal symptoms and pre-treatment self-efficacy ($r = -.09$). Thus far, a detailed examination of this part of self-efficacy theory with regard to smoking cessation is lacking.

As for the effect of previous attempts as a source of self-efficacy, two factors have been predominant in research to date, i.e., number and duration of previous efforts. Eventually, Mothersill et al. (1988) concluded that no relationship existed between the number of previous attempts at smoking cessation and self-efficacy. These authors, as well as Stuart et al. (1994), do re-

Table 1.

Overview of Results on the Relationship between Posttreatment Self-Efficacy and Smoking Cessation Outcome[a]

Authors	Smoking status			Smoking rate
	3-month follow-up	6-month follow-up	12-month follow-up	
Baer et al., 1986 (CQ)	No	No	No measure	SE1-SR6
Barrios and Niehaus, 1985 (CQ)	No measure	Yes	No measure	No measure
Becoña et al., 1988 (CQ)	Yes	Yes	Yes	SE1-SR12
Becoña et al., 1988 (SEQ)	Yes	No	No	SE1-SR2
Brandon et al., 1990 (Self)	No measure	No measure	Yes	No measure
Condiotte and Lichtenstein, 1981 (CQ)	Yes	No measure	No measure	No measure
DiClemente, 1981 (SEQ)	No measure	Yes	No measure	No measure
McIntyre et al., 1983 (CQ)	Yes	No	No	No measure
Mothersill et al., 1988 (Self)	Not reported	Yes	Yes	No measure
Sperry and Nicki, 1991 (Self)	No	No	No measure	No measure
Wojcik, 1988 (SEQ)	Yes	No measure	No measure	No measure

[a]CQ: Confidence Questionnaire (Condiotte and Lichtenstein, 1981). SE: Self-efficacy. SEQ: Self-Efficacy Questionnaire (DiClemente, 1981). Self: Self-Constructed Questionnaire.

port associations of the duration of the previous attempt with self-efficacy. Among smokers, Grove (1993) reports a positive relation of self-efficacy with the perceived success of prior quits, a related concept. Having recollections of withdrawal symptoms is an important element in an individual's history. The meaning attributed to previous attempts may be highly colored by the accompanying withdrawal symptoms. Therefore, we expected self-efficacy to show a negative association with the subject's report of withdrawal symptoms. The association may be different for quitters and relapsers; no research has been reported on this topic.

The duration of the previous attempt is thought to reflect coping skills and efforts, factors supposedly related to self-efficacy. Our second hypothesis therefore was that the duration of the previous attempt would show a positive relationship with self-efficacy both pre- and posttreatment.

Finally, in a multivariate approach, we also examined the contribution of the concepts mentioned above to the prediction of the long-term result of smok-

ing cessation programs. Self-efficacy was expected to make an independent contribution to the prediction, even after controlling for previous behavior experiences.

METHOD

Subjects

The respondents were cigarette smokers attending quit smoking programs in regional HMOs. At follow-up after 1 year, a sample of 523 participants was approached by mail. The response rate was 52% (n = 272). From this group the subjects were selected by applying two criteria: 1) having participated in pretreatment, posttreatment, and follow-up measurements; and 2) having stopped smoking at the end of the treatment program. This resulted in a total of 133 subjects: 82 women (62%) and 51 men (38%). This group was compared with a group of 545 participants for whom pretreatment data were available for demographic variables, smoking history, and withdrawal symptoms. They appeared to differ only slightly in terms of a shorter period of time elapsed since their last attempt to stop: Mann–Whitney Z-score = –2.20; $p <$ .03. See Tables 2a and 2b for a comparison of background characteristics.

Procedure

Our study included an exploration of a "Quit Smoking" program on 46 locations throughout the Netherlands during 14 weeks in 1991. The participants were given a letter from the University of Nijmegen asking them to take part in evaluation of the program. The program consisted of 8 group meetings of between 1.5 and 2 hours during 5 consecutive weeks. It consisted of three stages. In the first stage, the preparation stage, self-observation, motives, barriers, and goals were explored. In the second stage, the action stage, quitting

Table 2a.

Selected Background Characteristics: Means, Standard Deviations, and Median of the Research Sample (N = 133)

Characteristic	Mean	Standard deviation	Median
Age	43.3	10.4	
Smoking years	27.2	10.4	
Cigarette consumption per day	21.9	8.5	
Number of quitting attempts	3.1	3.6	2.0
Duration last attempt in days	141	263	21

Table 2b.

Selected Background Characteristics: Percentage of Subjects Perceiving Smoking Related Environmental Factors of the Research Sample (N = 133)

Characteristic	Percentage
Subjective health status: feeling (very) healthy	69
Smoking partners (including 18% not having partner)	45
Partners with negative attitude toward smoking	57
Friends with negative attitude toward smoking	16
Partners asking to quit	73
Friends asking to quit	63

strategies were discussed (e.g., coping with withdrawal), including self-control methods, alternatives for smoking, and the use of social support. The third stage concerned the maintenance of nonsmoking, with exploration of high risk situations, (more) skills training, and motivation enhancement. Participants came from all over the country; they had learnt about the program through the media and they all participated out of their own free will. The study had three points in time where the participants answered a questionnaire: 1) on the first and 2) on the last day of the program; and 3) after a follow-up period of 12 months. Those who were not present at the time of the second measurement received a questionnaire with a self-addressed envelope and were asked to return it to the University of Nijmegen. At follow-up after 12 months the participants received a written questionnaire and were kindly requested to return it to our research group; 2 weeks later they received a reminder.

Measures

Self-efficacy

Pretreatment self-efficacy was measured by using six questions asking the subjects to indicate on a 4-point scale (1 = very unsure, 4 = very sure) how confident they were that they would manage to abstain from smoking in various situations. The situations differed in specificity and magnitude, e.g., having a quarrel and being offered a cigarette.

Posttreatment self-efficacy was measured by using the same set of questions, except for the statement "I can manage to quit smoking without much difficulty." This item now read: "I can manage to abstain from smoking for the present." These scales were constructed in a previous study on 701 smokers, reliability being $\alpha = .84$. They also showed predictive validity, with long-

term quitters scoring higher on self-efficacy than relapsers (Rijt et al., 1993). In the present study both scales also had a high internal consistency: pre-treatment $\alpha = .88$, posttreatment self-efficacy $\alpha = .92$.

Withdrawal Symptoms

On the first day of the program the participants were asked to report withdrawal symptoms experienced during the previous attempts to stop smoking. They could assign scores on a 4-point scale ranging from 1 (none at all) to 4 (a great deal). The 16 symptoms were defined by applying the Nicotine Withdrawal symptoms of the DSM III-R (APA, 1987).

Posttreatment withdrawal symptoms were measured by asking the same questions, only now referring to efforts to stop smoking that were made during the treatment program.

Smoking History

The pretreatment smoking rate was established by using self-reported estimates of the daily number of cigarettes. The number of years of individual smoking history and the number of attempts to stop smoking preceding treatment, too, were self-reported. The same applied to the posttreatment and follow-up data on smoking rate and smoking status. Answers regarding the duration of the latest attempt to stop smoking were expressed in terms of days, weeks, months, and years, and were later converted into days.

Other Variables

In addition to the variables mentioned above, the respondents were also asked to indicate the amount of support they had received when trying to stop smoking, their nicotine dependence, and were to fill in a decisional balance measure. This article will only refer to the results concerning self-efficacy, withdrawal symptoms, and smoking history.

RESULTS

Smoking Behavior

At follow-up after 12 months, 75 subjects (56%) had relapsed while 58 (44%) still maintained their abstinence. When considering the number of subjects responding to the follow-up measurement ($n = 272$), we found a similar percentage of long-term quitters (44.8%; $n = 121$). If nonresponding sub-

jects were assumed to be smokers, the overall success rate was approximately 23%.

Self-Efficacy and Smoking Behavior

Multivariate analysis of variance with repeated measures showed a group effect [$F(1,126) = 77.9$, $p < .0001$]: long-term quitters had higher self-efficacy scores than relapsers. Other effects included a time effect [$F(1,126) = 65.1$, $p < .0001$) and an interaction effect between group and time [$F(1,126) = 51.5$, $p < .0001$]. Both quitters and relapsers started the treatment program with about the same degree of self-efficacy (mean = 2.47, SD = 0.63, $t = 0.73$, $df = 129$, N.S.). However, the two groups did not show a similar increase: posttreatment self-efficacy of long-term quitters was significantly greater (mean = 3.35, SD = 0.41), than of long-term relapsers (mean = 3.00, SD = 0.60, $t = 3.72$, $p < .01$, $df = 130$). The increase of self-efficacy was significantly higher for long-term quitters, with a t-value of 2.35 ($p < .05$, $df = 128$). The difference at follow-up was significant as well, but was considered to be a reflection of smoking status. No relationships were found regarding sex, age, and consumption.

Withdrawal Symptoms

Due to missing data, the symptom of "a slower heartbeat" was not included in the analyses. Subjects presenting incomplete data on various withdrawal symptoms did not show any deviating scores on their remaining withdrawal symptoms or on self-efficacy. The strongest recollections of previous attempts at smoking cessation referred to "craving" (see Table 3). This withdrawal symptom also presented the greatest problem after the treatment program.

Concentration problems and restlessness were also prominently present, both before and after treatment. An upset stomach, anxiety, and disorientation in time and place were symptoms in only very few cases.

Generally, subjects reported fewer problems with withdrawal symptoms following the treatment program as compared to what they remembered of their latest previous attempt to stop. This reduction was greatest for irritability, nervousness, and depressed mood. But higher frequencies were reported for problems with restlessness, appetite, headaches, and drowsiness—the latter symptom showing the greatest difference with the pretreatment measurement.

Long-term quitters did not show any differences with relapsers on most pretreatment and posttreatment withdrawal symptoms. Before treatment, long-term quitters indicated that they had slightly more trouble with an upset stom-

Table 3.

Means and Standard Deviations of Withdrawal Symptoms for Long-Term Quitters and Relapsers Before and After Treatment.

Withdrawal symptom	Pretreatment				Posttreatment			
	Relapsers		Quitters		Relapsers		Quitters	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
"Craving"	3.3	0.8	3.4	0.8	3.1	0.8	3.1	0.8
Irritable	3.0	1.0	3.1	0.8	2.4	0.9	2.3	0.8
Nervous	2.9	0.9	2.8	0.9	2.3	1.0	2.1	0.9
Concentration problems	2.7	0.9	2.7	0.9	2.5	1.0	2.7	1.0
Restless	3.1	0.9	3.2	0.8	2.7	0.9	2.7	1.0
Appetite/weight increase	2.3	0.9	2.6	0.9	2.6	0.9	2.9	0.8
Headache[a]	1.5	0.8	1.6	0.7	1.5	0.7	1.8	0.9
Drowsy	1.6	1.0	1.8	0.9	2.2	1.0	2.3	1.0
Upset stomach[b]	1.4	0.7	1.6	0.7	1.3	0.6	1.6	0.8
Depressed	2.5	1.0	2.3	1.1	2.0	0.9	1.8	0.8
Anxious	1.5	0.8	1.6	0.8	1.3	0.7	1.3	0.5
Sleeping problems	1.9	1.1	1.9	1.0	2.0	1.1	2.1	1.0
Change of mood	2.6	1.0	2.7	1.1	2.4	1.0	2.1	0.9
Disoriented time/place	1.5	0.8	1.7	0.9	1.6	0.8	1.7	0.8
Much coughing	1.7	0.8	1.9	0.8	1.4	0.7	1.5	0.8

[a]Posttreatment difference relapsers vs quitters, $p < .05$.
[b]Pretreatment difference relapsers vs quitters, $p < .05$.

ach (Mann–Whitney–Wilcoxon test, $Z = -2.3$; $p < .03$). At the end of treatment, long-term quitters reported more headaches (mean = 1.8, SD = 0.9) than relapsers [mean = 1.5, SD = 0.7; $t = 2.11(129)$, $p < .04$]. Notably, they indicated that they had fewer problems with change of mood (mean = 2.1, SD = 0.9) than relapsers [mean = 2.4, SD = 1.0; $t = -2.07(130)$, $p < .04$]. This was also the only variable for which long-term quitters reported greater changes than relapsers [$t = -2.47(103)$, $p < .02$].

Self-Efficacy and Withdrawal Symptoms

Table 4 shows that under pretreatment conditions, more withdrawal symptoms of relapsers were significantly associated with self-efficacy than those of the quitters. More specifically, this involved the symptoms of "craving," irritability, nervousness, concentration problems, restlessness, feelings of depression, and change of mood. The difference in strength of the correlations was

Table 4.

Correlations between (1) Pretreatment Withdrawal Symptoms and Pretreatment Self-Efficacy and (2) Posttreatment Withdrawal Symptoms and Posttreatment Self-Efficacy for Long-Term Quitters and Relapsers

	Self-efficacy			
	Pretreatment		Posttreatment	
Withdrawal Symptom	Relapsers (n = 67)[a]	Quitters (n = 67)[a]	Relapsers (n = 75)[a]	Quitters (n = 75)[a]
"Craving"	−.33**	−.22	−.24*	−.29*
Irritable	−.26*	−.15	−.27*	.03
Nervous	−.38**	−.37*	−.30**	−.05
Concentration problems	−.25*	−.15	−.00	−.05
Restless	−.45**	−.13	−.31**	−.05
Appetite/weight increase	−.16	−.07	.16	−.14
Headache	−.03	−.29	−.06	.18
Drowsy	−.05[b]	−.25	.15	.02
Upset stomach	.05[b]	−.29	.04	.04
Depressed	−.26*	−.37*	−.36**	.06
Anxious	.03	−.45**[b]	−.10	.05
Sleeping problems	−.17	−.26	−.15	−.13
Change of mood	−.26*	−.25	−.14	.10
Disoriented in time/place	−.00[b]	−.29	.04	−.18
Much coughing	−.16	−.05	.07	−.10

[a]Actual number for each correlation varies.
[b]Kendall's tau.
*$p < .05$.
**$p < .01$.

tested using Fisher's $Z_{r\ transformation}$ (see Ferguson, 1976, p. 196). Quitters with memories of high anxiety during their previous attempt were less self-efficacious before treatment, whereas for relapsers no such relation was found, ($Z_{r\ transformation} = 2.53$, $p < .01$).

"Craving," irritability, nervousness, restlessness, and feelings of depression were associated with posttreatment self-efficacy. Again, relapsers had more significant correlations. Relapsers who had more depressive symptoms during treatment were less self-efficacious at the end of treatment. For quitters this relationship was not found ($Z_{r\ tranformation} = -2.42$; $p < .01$).

In order to control for a carry-over effect of pretreatment self-efficacy, this variable was partialled out of the correlation of posttreatment self-efficacy with withdrawal symptoms during treatment. Unexpectedly, relapsers reporting that they were severely troubled by coughing in their previous attempt turned out to be relatively high in self-efficacy at the end of the treatment program (partial

$r = .22$; $p < .05$). Among long-term quitters a positive relationship (partial $r = .27$; $p < .05$) emerged between remembered severity of concentration problems in their previous attempt and posttreatment self-efficacy.

Whereas in relapsers nervousness during the attempt under study no longer showed a relation with posttreatment self-efficacy, concentration problems (partial $r = -.22$; $p < .05$) and disturbed orientation (partial $r = -.29$; $p < .05$) remained associated after partialling out pretreatment self-efficacy.

Previous Attempts

The number of smoking cessation attempts that were made before participating in the treatment program varied between 1 ($n = 29$) and 30 ($n = 1$). Dividing the sample into long-term quitters and relapsers produced the following results: relapsers had made an average of 2.7 attempts (SD = 1.9, median = 2.0) whereas the corresponding average for long-term quitters was 3.7 attempts (SD = 5.4, median = 2.0). Three extreme scores (30, 19, and 15 attempts, respectively) were responsible for this higher value.

Self-Efficacy and Attempts to Quit

No relationship was found between the number of pretreatment attempts and pretreatment self-efficacy, neither for long-term quitters (Kendall's tau = -.08) nor for relapsers (Kendall's tau = -.10). Posttreatment self-efficacy was not related with the number of previous attempts for quitters and relapsers (Kendall's tau = .03, and -.07,). However, the duration of the previous attempt showed a significant difference between long-term quitters and relapsers with an average duration of 199 days (SD = 372, median = 70) and 97 days (SD = 179, median = 21), respectively (Mann–Whitney–Wilcoxon test; Z-value = -2.0, $p < .05$).

Furthermore, a positive correlation was found to exist for long-term quitters between the duration of their last attempt and their pretreatment self-efficacy (Kendall's tau = .21, $p < .05$). This relation was not found with posttreatment self-efficacy (Kendall's tau = -.04, N.S.). Relapsers showed an opposite pattern: no relation of duration with pretreatment self-efficacy (Kendall's tau = .14, N.S.), but a positive relation with posttreatment self-efficacy (Kendall's tau = .26, $p < .01$). For them it was also examined whether self-efficacy contributed to the duration of the attempt under study. A positive relation existed between posttreatment self-efficacy and the duration of abstinence ($r = .25$, $p < .01$). No relationship was found between duration and subsequent self-efficacy at follow-up ($r = .16$, N.S.).

Predicting Long-Term Results

A multivariate discriminant analysis tested the predictive value of self-efficacy while controlling for general demographic characteristics and behavioral experience.

Men were more frequently successful than women. Pretreatment cigarette consumption did not prove to discriminate between quitters and relapsers. The duration of the previous attempts and number of prior attempts were shown to add explained variance to sex; quitters both had more prolonged cessation attempts and a greater number of attempts to stop. Having headaches at the end of the treatment program as well as little change of mood were also associated with success. And finally, pretreatment and posttreatment self-efficacy, introduced as the last variables, were able to reduce Wilks' lambda from 0.83 to 0.78. The item-total correlation of Table 5 shows that headaches had the strongest association with the discriminant function, followed by posttreatment self-efficacy. By applying this function it was possible to diagnose 75% of the subjects correctly. The prior probabilities were 0.42 for quitters and 0.58 for relapsers. The discriminant function was able to classify 24% more subjects as quitters and 34% more subjects as relapsers.

DISCUSSION

To our knowledge, this study is the first to provide data that suggest differences between relapsers and long-term quitters with regard to the strength of the associations of withdrawal symptoms, previous attempts to quit, and self-efficacy. Using a multivariate approach, our results support self-efficacy theory where it states that self-efficacy is an independent predictor of future behavior.

Table 5.

Standardized Canonic Discriminant Function Coefficients and Correlations of Variables with the Discriminant Function

Variable	Function coefficient	Correlation with function
Sex	−.40	−.36
Duration last attempt	.47	.36
Number of attempts	.19	.23
Versatility of mood	−.31	−.33
Headache	.57	.48
Posttreatment self-efficacy	.51	.44
Pretreatment self-efficacy	−.40	−.10

If recollections of emotional symptoms (restlessness, nervousness, irritability, feelings of depression, change of mood, and "craving") at the previous attempt were stronger, self-efficacy before treatment tended to be lower. This suggests that relapsers draw more negative conclusions from their withdrawal symptoms than long-term quitters. While withdrawal symptoms are not directly related with outcome, they seem to affect self-efficacy. This hypothesis may reconcile contradictory conclusions from previous studies on withdrawal symptoms. The significant different strength of the association of depression with self-efficacy is in line with research showing the influence of a history of depression and depressed mood states on smoking status (Covey et al., 1990).

Regarding previous attempts to stop smoking, the number of attempts was not found to distinguish significantly between quitters and relapsers. However, the duration of long-term quitters' latest attempts was significantly longer. This is in agreement with Mothersill et al. (1988) and Stuart et al. (1994). Also, the number of attempts did not have any relationship with pretreatment self-efficacy; multivariate results do show an effect of this variable, however.

Quitters and relapsers differed with regard to the associations of the duration of the previous attempt with self-efficacy. Before treatment, quitters' self-efficacy was in line with the duration of their latest attempt. At the end of treatment, relapsers' perception of self-efficacy became more accurate as is also suggested by the positive relationship of self-efficacy with the duration of the attempt under study. Exploration of how quitters experience their previous attempts may shed light on this issue.

Even in a multivariate analysis, self-efficacy still explains a unique proportion of variance after controlling for sex, attempts to quit, and withdrawal symptoms. An unexpected contribution is made here by pretreatment self-efficacy; other studies failed to find any predictive value. This may be due to the multivariate approach; self-efficacy was the last variable to be introduced into the analysis. Its independent effect is small; its functional relation is low.

As for the predictive value of posttreatment self-efficacy, our results are in agreement with previous research (see Table 1). The multivariate approach shows a slightly different pattern than the univariate analyses. Two withdrawal symptoms, headache and mood changes, predict smoking status combined with number of prior attempts and the duration of the previous attempt. Men are more successful than women; this has been reported before (Tunstal et al., 1986).

Long-term quitters had the same average pretreatment self-efficacy as relapsers. At the end of treatment, however, there was a already significant difference in self-efficacy, although they all had stopped smoking. The increase in self-efficacy during treatment thus seems to be the main factor contributing to the predictive value of posttreatment self-efficacy. Bandura (1986) suggested

that self-efficacy would be increased by setting feasible and encouraging subtargets; future research will have to decide whether quitters and relapsers can be distinguished in this respect. The reader should be aware that this study used linear methods. Self-efficacy, however, is a complex, dynamic, and possibly heterogeneous process of adaptation. From the point of view of recent nonlinear theory, self-efficacy is unpredictable but lawful. Because self-efficacy is multiply influenced, similar beginning states may result in different end states, whereas similar end states may result from differen beginning states. This intriguing field of research may shed new light on the up-to-now rather simple linear cause and effect theories.

Some limitations of this study need to be taken into account. We had to rely on the collaboration of several institutions which either gave us addresses or mailed the questionnaires for long-term follow-up; 55% of these subjects responded, which can be said to be satisfactory for a questionnaire by mail. Second, the individual's self-report was the only instrument applied to measure smoking status. Yet we have little reason to doubt its validity as is shown in other studies (Brandon et al., 1990; Velicer et al., 1992). These limitations are counterbalanced by the fact that our field survey entailed a nationwide study of health centers so that participants were not attracted by research or money.

This study again recognizes the role of increasing self-efficacy during treatment in view of sustained abstinence. If the results of this study are replicated, interventions aimed directly at increasing self-efficacy expectations by addressing withdrawal symptoms and the previous attempts to quit should become the focus of further investigations.

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RESUMEN

Este estudio explora la relación entre auto-eficacia y dejandose de dejar sostenido en un grupo de personas Holandese que dejaban fumar asistiendo en 1991 un programa para terminar el fumar. Aumento en auto-eficacia durante tratamientosalio como predicción de resultado, también cuando controlado de caracteristicas demográficas y variables de la historia de parar fumar. Personas que recayeron (n = 75) demonstraron mas relaciones negativas entre auto-eficacia y síntomas de abstención que los que tenían éxito en abstenerse (n = 58). Personas que recayeron, que eran mas depresivos durante el esfuerzo estudiado, tenían menos auto-eficacia al termino del tratamiento. Ademas, la duracíon del esfuerzo precedente para dejarfumar resulto distintamente asociado con auto-eficacia con respecto a los que abondonaron y los que recayeron.

RÉSUMÉ

Cette étude examine la relation entre "self-efficacy" et la maintenance de s'ârreter fumer dans des ârrèteurs Neerlandaises qui attendaient un programme de 's ârreter fumer en 1991.

L'augmentation de "self-efficacy" dant le programme apparait un predicteur du résultat, aussi àpres la controle pour characteristiques démographiques et les variables d'histoire de fumer. Les personnes qui retombaient (n = 75) avaient plus des relations negatives entre "self-efficacy" et les symptômes d'abstinence que ceux qui s'ârrètent avec succès (n = 58).

Les retombeurs qui étaient plus dépressives durant cette étude avaient moins de "self-efficacy" au fin du programme. D'ailleurs, la duration des efforts précédentes d'ârreter fumer était relatée différement dans ceux qui etaient retombés et ceux qui arrètaient.

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Topic-Focused Bibliography

Maternal Substance Use: Epidemiology, Treatment Outcome, and Developmental Effects: An Annotated Bibliography, 1995

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ABSTRACT

Understanding the effects of substance misuse by pregnant women and mothers of young children requires a knowledge of the epidemiology of women's drug and alcohol use and misuse, the treatment of pregnant and postpartum chemically dependent women, the impact of prenatal exposure on the offspring outcome and later development, and, finally, methodological issues related to these fields. This bibliography provides a list of recent and classic articles in these areas as well as information about the research in these areas.

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INTRODUCTION

Understanding the effects of maternal substance use is complicated. It involves investigation of both the mother and the child as well as the many factors that predispose women to misuse drugs and alcohol and those factors that affect the development of their children. The recent cocaine epidemic in the United States produced much concern about these issues and led to increased publication on this topic. There was a similar epidemic of heroin use during the 1960s which affected much of the world. The use of alcohol and tobacco, much more common than the use of illegal drugs, as well as the use of marijuana, has been ongoing. In fact, most women who use any psychoactive substance during their pregnancies are polydrug users. To understand the meaning of such use by pregnant women and mothers of young children, it is necessary to be familiar with several bodies of literature.

Those relevant areas include: 1) the *epidemiology* of alcohol and drug use and misuse by women, which varies considerably by nationality as well as within nations and between different classes and cultural groups. Surprisingly, the epidemiology of drug and alcohol use and misuse during *pregnancy* itself, an important element for understanding of this issue, has not yet been examined systematically, and there is no extant body of literature on this topic; 2) the literature on *treatment of women* addicted to various drugs and the much smaller body of work on treatment of pregnant and postpartum women; 3) data on the *developmental outcome* of the offspring both in the perinatal period, which is often epidemiological and medical in nature, and that on the child's development in infancy and childhood, which can include medical and developmental (cognitive and physical) outcomes as well as educational issues; and 4) finally, it is necessary for the reader to be familiar with some of the *methodological issues* that are of importance in understanding this literature.

This bibliography provides a list of recent literature in each of these areas. We have attempted to provide information that is both representative of the field, as a whole, and inclusive enough to provide the reader with adequate information about each topic. However, in making selections from what is sometimes a very extensive body of work, we have had to apply a number of criteria. In general, except for certain topics (e.g., opiates) and in the case of "classic" articles, we have focused on the literature since 1990. Second, references are cited based on the scientific soundness of the work. For the most part, empirical articles were excluded if they did not meet generally accepted standards (e.g., control or contrast groups, adequate control of confounding variables, appropriate statistics, conclusions based on data presented). In some cases, when articles were "classic" and often cited, we relaxed these standards. Similarly, when there are investigators who are very well known in certain

areas, we selected representative articles from their body of work. Review articles were evaluated based on the rigor of their own methodologies as well as their comprehensiveness and usefulness. We attempted to identify well-researched articles which reviewed information about both polydrug use as well as the individual drugs which are most often misused by pregnant women, that is, alcohol, cocaine, marijuana, the opiates, and tobacco. Due to space limitations we have not addressed the issues of prescription drugs, which are widely used and misused by women but do not have a large literature, nor the less frequently misused substances, like inhalants, nor toxic substances that are not ingested intentionally, like polychlorinated biphenyls (PCPs).

In choosing what to include in different areas (e.g., epidemiology or treatment), it became obvious that it was not possible to apply a uniform set of criteria due to differences in the nature of research in each area. For that reason, we will also describe our criteria for selection from each of these areas. *Key words* for use in finding more information in each area are listed in the appropriate sections.

Epidemiology

In reviewing this literature, it became evident that this issue has received little attention outside the United States. Several articles describing use of drugs and alcohol by pregnant women in the United States are included; however, little was available from other countries on this topic. Those articles which could be found usually reported on the general population of women but did not include, specifically, pregnant women. Thus, due to the limited available data, we were somewhat less stringent in our inclusion criteria. As a result, the quality of articles can be described as adequate but not always exceptional. Articles regarding general population data were included if some of the data were reported by gender. Finally, because of the way in which most investigators conceptualize these issues, there are two broad categories of articles: alcohol use and polydrug use. Some articles are annotated while others, when the content is obvious from the title, are not.

Treatment

Selection of review articles on the treatment of substance misuse was limited to articles which specifically discuss treatment among women. This strategy limited selection since most treatment studies use male populations to determine effectiveness. As in the literature on substance misuse in general, there is a paucity of empirical studies specifically investigating the treatment of substance-dependent pregnant women although recently it has been suggested that

women, and particularly pregnant women, who are using addictive substances may have unique needs. For this reason and because of limitations in space, only studies of the treatment of *pregnant* women are included in this bibliography.

Treatment studies, perhaps due to the difficulty in carrying out such studies, often do not meet the usual criteria for empirical research. Lack of contrast groups or randomized assignment, for instance, make interpretation of results of treatment impossible. For that reason, only articles which included appropriate contrast groups are included here.

To provide an overview of the field, articles were selected to provide information about the effectiveness of treatment of various drugs. In addition, an attempt was made to include studies of populations of various nationalities and to include empirical studies which evaluated a range of treatment methods such as residential programs, outpatient, day-treatment programs, and counseling or health education techniques.

Developmental Outcome of Offspring

Two types of articles were selected for inclusion in this section. Well researched and written reviews of the effects of prenatal exposure, in general, and to specific drugs, as well as empirical articles which met our criteria for adequate methodology—use of control groups, control of confounding variables, "blind" assessment of children's outcomes, and similar well-accepted criteria. In some cases where articles or the authors are particularly important to the history of a field, these criteria have been relaxed in order to provide the reader with access to this perspective. We have attempted to include information about most of the frequently misused drugs, although the state of the literature itself affects the success of this effort. In many cases there are no data available on the outcome for exposed children, particularly beyond infancy. We have also tried to provide information from many different countries and ethnic and social groups since it is clear that outcomes and interpretations vary based on the origin of the information.

Methodology

A great deal has been published on the topic of maternal substance misuse and the effects on offspring. Unfortunately, some of this research was not well done. For this reason we have included the *Methodology* section to provide basic information to allow the critical review of information dealing with substance use during pregnancy. In addition, the articles were selected to provide resources for obtaining more detailed knowledge about the methodologi-

cal issues which have been identified in this area. Some of these articles discuss methods for identification of maternal drug and alcohol use, such as self-report interviews and biological indicators. Articles discussing issues in research design, data collection, and data analysis have also been included.

In summary, a review of the literature on maternal drug and alcohol use reveals a large literature, of varying quality, which has a number of gaps. Most of the available information is based on data collected in the United States, and there may be a number of biases when such information is applied to other populations. Information about the substance use of women rather than men is generally inadequate, and adequate epidemiological information about use by pregnant women is almost nonexistent. Evaluation of appropriate treatment strategies for this population is in a very early stage of development, and much of the published information is not based on empirical studies. Outcome studies focusing on the offspring who were prenatally exposed vary in quality although it is possible to find good, well-controlled studies. Information about the long-term outcome in such children, however, is both inadequate in amount and limited in scope. Finally, it is impossible to interpret the information that is available without first understanding the significant methodological issues that are inherent in these clinical studies. These include the issues of polydrug use, environmental confounds, and cultural and ethnic factors that affect both substance use and outcomes in mothers and children.

EPIDEMIOLOGY

Drug Use during Pregnancy

CHASNOFF, I. J., LANDRESS, H. J., and BARRETT, M. E. (1990). The prevalence of illicit-drug or alcohol use during pregnancy and discrepancies in mandatory reporting in Pinellas County, Florida. *N. Engl. J. Med.* 322: 1202–1206. A screening of all pregnant women who enrolled for prenatal care in Pinellas County during a one-month period for alcohol, opiate, cocaine, and cannabinoid use found the rate of illicit substance use during pregnancy to be similar among all pregnant women, regardless of socioeconomic status or race. In spite of this, Black women and poor women were more likely to be reported to health authorities, indicating potential biases in epidemiological data based on medical records or physicians' reports.

DAY, N. L., COTTREAU, C. M., and RICHARDSON, G. A. (1993). The epidemiology of alcohol, marijuana, and cocaine use among women of childbearing age and pregnant women. *Clin. Obstet. Gynecol.* 36: 232–245. This is a thorough review of epidemiological studies of alcohol, marijuana, and cocaine use among women conducted in the United States prior to 1993. Included is a brief discussion of the methodological issues involved in this type of research, such as measurement and covariates of drug use.

DICKER, M., and LEIGHTON, E. A. (1994). Trends in the U.S. prevalence of drug-using parturient women and drug-affected newborns, 1979 through 1990. *Am. J. Public Health* 84: 1433–1438. Using data from the annual National Hospital Discharge Survey (1979–1990), the

national prevalence of drug-related diagnoses among parturient women and newborns was estimated.

GOMBERG, E. S. L. (1993). Women and alcohol: Use and abuse. *J. Nerv. Ment. Dis.* 181: 211–219. A review on women and alcohol, including information on attitudes toward women's drinking, differences in men's and women's patterns of drinking, antecedents of alcohol use and misuse among women, and differences among women with earlier and later onset of alcoholism. Also included is a discussion on treatment issues for women.

NATIONAL INSTITUTE ON DRUG ABUSE (1995). *National Pregnancy and Health Survey.* Rockville, Maryland. This is the first nationally representative survey on women's use of drugs during pregnancy in the United States. The report details the number of women using various drugs including marijuana, cocaine, alcohol, and cigarettes. Demographic characteristics and patterns of drug use are also reported.

NATIONAL INSTITUTE ON DRUG ABUSE (1995). *National Household Survey on Drug Abuse: Main Findings 1992.* Rockville, Maryland. This survey on drug use (including illicit drugs, prescription drugs used nonmedically, alcohol, and tobacco) was initiated in 1971 and is currently being conducted annually. *Population Estimates* and *Advance Reports* are published prior to *Main Findings* for each survey. The reporting of findings by demographic characteristics such as sex, age, race, and ethnicity is relevant to the topic of drug use by women of childbearing age.

Alcohol

ALVAREZ, F. J., and DEL RÍO, M. C. (1994). Gender differences in patterns of alcohol consumption in Spain. *Alcoholism: Clin. Exp. Res.* 18: 1342–1347.

BENNETT, P., SMITH, C., and NUGENT, Z. (1991). Patterns of drinking in Wales. *Alcohol Alcoholism* 26: 367–374.

CORTI, B., and IBRAHIM, J. (1990). Women and alcohol—Trends in Australia. *Med. J. Aust.* 152: 625–632.

CRÉPIN, G., DEHAENE, P., and SAMAILLE, C. (1989). Aspects cliniques, évolutifs épidémiologiques de l'alcoolisme fœtal: Un fléau toujours d'actualité. (Clinical aspects, epidemiologic progression of fetal alcoholism: a current daily problem.) *Bull. Acad. Natl. Med.* 173: 575–585.

HELZER, J. E., CANINO, G. J., YEH, E., BLAND, R. C., LEE, C. K., HWU, H., and NEWMAN, S. (1990). Alcoholism: North America and Asia. *Arch. Gen. Psychiatry* 47: 313–319. (Data for this study were collected in St. Louis, Missouri, USA; Edmonton, Canada; Puerto Rico; Tapei City, Taiwan; and South Korea.)

MAY, P. (1989). Alcohol abuse and alcoholism among American Indians: An overview. In T.D. Watts and R. Wright Jr. (Eds.), *Alcoholism in Minority Populations.* Springfield, IL: Charles C. Thomas.

MURRAY, M., and McMILLAN, C. (1993). Problem drinking in Northern Ireland: Results of a community survey using the CAGE questionnaire. *Alcohol Alcoholism* 28: 477–483.

NEVE, R. J. M., DIEDERIKS, J. P. M., KNIBBE, R. A., and DROP, M. J. (1993). Developments in drinking behavior in the Netherlands from 1958 to 1989, a cohort analysis. *Addiction* 88: 611–621.

ROMANS-CLARKSON, S. E., WALTON, V. A., HERBISON, G. P., and MULLEN, P. E. (1992). Alcohol-related problems in New Zealand women. *Aust. N. Z. J. Psychiatry* 26: 175–182.

WEISS, S. (1991). Adult women's drinking in Israel: A review of the literature. *Alcohol Alcoholism* 26: 277–283.

YAMAMOTO, J., SILVA, J. A., SASAO, T., WANG, C., and NGUYEN, L. (1993). Alcoholism in Peru. *Am. J. Psychiatry* 150: 1059–1062.

Polydrug

AGUILAR, Z. E. (1990). Prevalence of the improper use of alcohol, tobacco, and drugs in the Ecuadorian population. *Bull. Pan Am. Health Organ.* 24: 35–38.

ALVAREZ, F. J., QUEIPO, D., DEL RÍO, M. C., and GARCIA, M. C. (1992). Patterns of drug use in Castille and Leon (Spain). *Br. J. Addict.* 87: 1153–1160.

DAVIS, R. B. (1994). Drug and alcohol use in the former Soviet Union: Selected factors and future considerations. *Int. J. Addict.* 29: 303–323.

DE GALVIS, Y.T., and MURRELLE, L. (1990). Consumption of dependence-producing substances in Colombia. *Bull. Pan Am. Health Organ.* 24: 12–21.

HANCOCK, L., WALSH, R., HENRY, D. A., REDMAN, S., and SANSON-FISHER, R. (1992). Drug use in Australia: A community prevalence study. *Med. J. Aust.* 156: 759–764.

MEDINA-MORA, M. E., CONYER, R. T., SEPÚLVEDA, J., MONNREAL, R. O., RASCÓN, M. L., SOLACHE, G., LAZCANO, F., VILLATORO, J., DEL CARMEN MARIÑO, M., LÓPEZ, E. K., DE LA SERNA, J., and GUIOT, E. R. (1989). Extensión del consumo de drogas en México: Encuesta nacional de adicciones. Resultados nacionales. (The extent of drug use in Mexico: National survey of addictions, national results.) *Salud Mental* 12: 7–12.

MURILLO, E. A. (1990). Drug abuse in Costa Rica: A review of several studies. *Bull. Pan Am. Health Organ.* 24: 30–34.

SMART, R. G., and ADLAF, E. M. (1990). Drug use in Ontario, Canada. *Bull. Pan Am. Health Organ.* 24: 22–29.

Key words. Substance abuse—epidemiology; Substance dependence—epidemiology; Women; Alcohol

TREATMENT

Review Articles

DE LEON, G., and JAINCHILL, N. (1991). Residential therapeutic communities for female substance abusers. *Bull. N.Y. Acad. Med.* 67(3): 277–290. A description of the effectiveness of multifaceted, therapeutic residence programs that offer comprehensive medical, educational, and psychosocial services and treatment to address the gender-specific needs of female substance users who are pregnant or of childbearing age.

FARKAS, K. J., and PARRAN, T. V. (1993). Treatment of cocaine addiction during pregnancy. *Clin. Perinatol.* 20(1): 29–44. A thorough discussion of several methods for the assessment and treatment of cocaine misuse among pregnant women. This article also recognizes the unique needs and characteristics of substance-using women and incorporates this understanding into the discussion and evaluation of various methods of treatment.

FINKELSTEIN, N. (1993). Treatment programming for alcohol and drug-dependent pregnant women. *Int. J. Addict.* 28(13): 1275–1309. This review article presents the reader with clear guidelines for developing effective treatment programs for substance-abusing women which are supported by a review of empirical support for these guidelines and treatment protocols. Also included is a list of resources for readers who are interested in the implementation of their own treatment programs.

FINNEGAN, L. P., HAGAN, T., and KALTENBACH, K. A. (1991). Scientific foundation of clinical practice: Opiate use in pregnant women. *Bull. N. Y. Acad. Med.* 67(3): 223–239. A detailed description of a multifaceted, systemic, outpatient program for the treatment of pregnant opiate-dependent women is presented. Empirical support for the inclusion of intensive medical, pharmacological, psychological, behavioral, social, and community outreach services is also provided.

HOEGERMAN, G., and SCHNOLL, S. (1991). Narcotic use in pregnancy. *Clin. Perinatol.* 18(1): 51–76. The etiology and pharmacology of opiate use during pregnancy and a review of the literature on the teratogenicity of opiates is covered. Sections on the diagnosis and treatment of opioid use during pregnancy, including a detailed account concerning the use of methadone maintenance to treat opiate-dependent pregnant women, are also included as are methods of treating the Neonatal Abstinence Syndrome seen in opiate-dependent neonates.

MARSH, J. C., and MILLER, N. A. (1985). Female clients in substance abuse treatment. *Int. J. Addict.* 20(6 & 7): 995–1019. Gender-specific characteristics of substance-using women are discussed in relation to treatment and service needs. A review of the research suggests that treatment programs that address the unique needs of substance-dependent women, such as prenatal services, child care, and self-improvement classes, have the greatest effectiveness in reducing the incidence of substance-use-related problem causing behaviors.

RASKIN, V. D. (1993). Psychiatric aspects of substance use disorders in childbearing populations. *Recent Adv. Addict. Dis.* 16(1): 157–165. The importance of understanding the psychosocial characteristics that are unique to pregnant substance users in treatment in order to facilitate the prevention, diagnosis, and treatment of substance use in the childbearing population is stressed. The reality and prevalence of postpartum relapse is also discussed.

Empirical Articles

DAHLGREN, L., and WILLANDER, A. (1989). Are special treatment facilities for female alcoholics needed? A controlled 2-year follow-up study from a specialized female unit (EWA) versus a mixed male/female treatment facility. *Alcoholism: Clin. Exp. Res.* 13(4): 499–504. This carefully controlled study of 200 Swedish alcohol-dependent women found that women who had been randomly assigned to an all-female inpatient treatment program versus a traditional mixed gender inpatient alcohol treatment program were significantly less likely to have relapsed and were more likely to have remained abstinent at a two-year follow-up.

HALMESMÄKI, E. (1988). Alcohol counselling of 85 pregnant problem drinkers: Effect on drinking and fetal outcome. *Br. J. Obstet. Gynaecol.* 95: 243–247. Intensive, outpatient alcohol counseling was given to pregnant women in Finland who were identified as heavy or binge drinkers. 65% of the problem drinkers significantly reduced their alcohol consumption during pregnancy and were significantly less likely to have infants with any observable structural abnormalities related to prenatal exposure to alcohol than women who did not reduce their alcohol consumption during pregnancy.

SMITH, I. E., DENT, D. Z., COLES, C. D., and FALEK, A. (1992). A comparison study of treated and untreated pregnant and postpartum cocaine-abusing women. *J. Substance Abuse Treatment* 9: 343–348. Psychosocial differences between women treated for substance misuse and untreated cocaine-abusing women as assessed by the Addiction Severity Index and the Psychiatric Symptom Checklist-90R. Women who sought treatment for their addiction were more impaired in their psychosocial functioning, reported more depression and anxiety, were less satisfied with life and their marital status and had heavier drug use, and were more likely to use multiple drugs than women who did not seek treatment.

WINDSOR, R. A., LOWE, J. B., PERKINS, L.L., SMITH-YODER, D., ARTZ, L., CRAWFORD, M., AMBURGY, K., and BOYD, N. R. (1993). Health education for pregnant smokers: Its behavioral impact and cost benefit. *Am. J. Public Health* 83(2): 201–206. Educating pregnant smokers about health and fetal development issues associated with smoking was shown to be both cost beneficial and effective in changing smoking behaviors. 814 pregnant smokers were randomly assigned either to an intervention program where smoking cessation tips and self-monitoring skills were taught, or to a control group. Subjects who participated in the intervention program had significantly higher smoking cessation and reduction rates than women in the control group.

Critical Analysis

SCHORLING, J. B. (1993). The prevention of prenatal alcohol use: A critical analysis of intervention studies. *J. Stud. Alcohol* 54: 261–267. A critical review of published investigations on the effectiveness of prenatal education and counseling as techniques to decrease alcohol use by pregnant women. A thorough analysis of carefully selected studies demonstrates the present methodological inadequacies in alcohol treatment studies and provides the reader with stringent guidelines with which to critically examine research articles on the effectiveness of substance treatment programs.

Key words. Substance use; Treatment; Intervention; Substance dependence; Women

DEVELOPMENTAL EFFECTS ON OFFSPRING OF PRENATAL EXPOSURE

Review Articles

ABEL, E. L. (1990). *Fetal Alcohol Syndrome.* Oradell, NJ: Medical Economics Co. This comprehensive review of the literature on fetal alcohol syndrome (FAS) is an excellent source for detailed information on all aspects of FAS, including case studies, historical reports, and comparative and human studies.

BEHNKE, M., and EYLER, F. D. (1993). The consequences of prenatal substance use for the developing fetus, newborn, and young child. *Int. J. Addict.* 28(13): 1341–1391. A critical review of recent literature on the effects of nicotine, alcohol, marijuana, opiates, and cocaine use by pregnant women on fetal, perinatal, and long-term development. Particular emphasis is placed on the medical, anthropometric, and obstetric outcomes associated with maternal substance use during pregnancy, although behavioral outcomes are reviewed as well.

BONGAIN, A., HUSS, M., and GILLET, J. Y. (1992). Toxicomanie et grossesse. (Drug use and pregnancy.) *Rev. Prat.* 42: 1004–1009. A review of obstetric and neonatal outcomes associated with prenatal substance exposure. The focus of this article is on neonatal effects associated with maternal opiate use. In addition, brief summaries of effects associated with methadone, LSD, amphetamines, and marijuana are also included. Although these summaries generally give an adequate, basic overview of associated outcomes, they do not address the equivocal findings in the research on the effects of prenatal cocaine exposure.

CARTER, J. J., SIDERIDIS, G., RINKEL, P. H., GUIMARAES, S., GREENWOOD, G., BAGGET, K., PETERSON, P., ATWATER, J., McEVOY, M., and McCONNELL, S. (1994). Behavioral outcomes of young children prenatally exposed to illicit drugs: Review and

analysis of experimental literature. *Top. Early Childhood Spec. Educ.* 14(2): 184–216. A critical review of recent publications on cocaine and other illicit drug use which highlights the excesses of the early literature and suggests criteria for interpretation.

COLES, C. D., and PLATZMAN, K. A. (1993). Behavioral development in children prenatally exposed to drugs and alcohol. *Int. J. Addict.* 28(13): 1393–1433. A comprehensive review of the effects at different stages of the child's development of prenatal exposure to alcohol, nicotine, opiates, marijuana, and cocaine.

DESSENS, A. B., BOER, K., KOPPE, J. G., VAN DE POLL, N. E., and COHEN-KETTENIS, P. T. (1994). Studies on long-lasting consequences of prenatal exposure to anticonvulsant drugs. *Acta Paediatr. Suppl.* 404: 54–64. A well-written review article on perinatal and long-term outcomes in the offspring of mothers who used anticonvulsant drugs and/or barbiturates for the treatment of epilepsy during pregnancy.

FINNEGAN, L. P., and KALTENBACH, K. A. (1992). Neonatal abstinence syndrome. In R.A. Hoekelman, S. B. Friedman, N. M. Nelson, and H. M. Seidel (Eds.). *Primary Pediatric Care.* 2nd ed. (pp. 1367–1378) St. Louis, MO: Mosby. Comprehensive review of current knowledge on the Neonatal Abstinence Syndrome resulting from prenatal opiate exposure. This article describes the syndrome, provides a methodology for rating its severity, and recommends treatment strategies. Finnegan's system is the most widely used method for identification and treatment of infant withdrawal.

FRIED, P. A. (1992). Clinical implications of smoking: Determining long-term teratogenicity. In I. S. Zagan and T. A. Slotkin (Eds.), *Maternal Substance Abuse and the Developing Nervous System* (pp. 77–96). New York, NY: Academic Press. An excellent review of the long-term developmental effects of maternal smoking with focus on the Ottawa Prenatal Prospective Study carried out by the author.

HUTCHINGS, D. E. (1993). The puzzle of cocaine's effects following maternal use during pregnancy: Are there reconcilable differences? *Neurotoxicol. Tertol.* 15: 281–286. A selective review of the clinical and epidemiological literature on the effects of prenatal cocaine exposure that focuses on resolving the controversies current in the field. Intractable methodological and interpretive problems inherent in developmental research on substance use make firm conclusions premature. However, no evidence is found to support extreme claims about negative effects of cocaine.

KALTENBACH, K., and FINNEGAN, L. P. (1984). Developmental outcome of children born to methadone maintained women: A review of longitudinal studies. *Neurobehav. Toxicol. Teratol.* 6: 271–275. Reviews outcome studies and examines methodological problems in this area of research. Cognitive performance in children is not affected but the need to account for environmental and social class factors is discussed.

LUTIGER, B., GRAHAM, K., EINARSON, T. R., and KOREN, G. (1991). Relationship between gestational cocaine use and pregnancy outcome: A meta-analysis. *Teratology* 44: 405–414. A meta-analysis of 20 empirical studies examining the developmental outcomes associated with prenatal exposure to cocaine found that few adverse perinatal outcomes could be related to cocaine use alone. The authors conclude that many of the adverse outcomes commonly believed to be associated with maternal cocaine use during pregnancy are actually associated with polydrug use by pregnant women.

MAYES, L. C., GRANGER, R. H., BORNSTEIN, M. H., and ZUCKERMAN, B. (1992). The problem of cocaine exposure: A rush to judgement. *J. Am. Med. Assoc.* 267: 406–408. A commentary cautioning the scientific and medical community about the dangers of making premature and unsupported decisions about the effects of prenatal cocaine exposure. It raises questions about the validity of the literature as well as providing a critique of methodological flaws.

NEHLIG, A., and DEBRY, G. (1994). Potential teratogenic and neurodevelopmental consequences of coffee and caffeine exposure: A review on human and animal data. *Neurotoxicol. Teratol.* 16: 531–543. This comprehensive review on the developmental effects related to intrauterine exposure to caffeine includes current information on structural, anthropometric, obstetrical, and behavioral outcomes associated with maternal consumption of caffeine, as well as a brief review on the pharmacology of caffeine.

RICHARDSON, G. A., DAY, N.L., and McGAUHEY, P. J. (1993). The impact of prenatal marijuana and cocaine use on the infant and child. *Clin. Obstet. Gynecol.* 36(2): 302–318. Comprehensive review of current knowledge about effects marijuana and cocaine (and crack use) in pregnancy. It includes information on epidemiology, effects of exposure, as well as methodological issues affecting interpretation of data.

RUSSELL, M. (1991). Clinical implications of recent research on the fetal alcohol syndrome. *Bull. N. Y. Acad. Med.* 67(3): 207–222. Results of six longitudinal studies carried out in the United States of the effects of prenatal alcohol exposure are reviewed with attention to the clinical implications of their findings. The article examined differences in methodology and populations as well as outcomes in exposed offspring.

SINGER, L., ARENDT, R., and MINNES, S. (1993). Neurodevelopmental effects of cocaine. *Clin. Perinatol.* 20: 245–262. A concise, yet thorough, review article which covers characteristics of cocaine-using pregnant women, and the obstetric complications and neonatal neurobehavioral outcomes associated with prenatal exposure to cocaine. Also included is a well-written discussion of the methodological issues that account for the equivocal findings in the literature on obstetrical and perinatal outcomes associated with prenatal exposure to cocaine.

SZETO, H. H. (1993). Kinetics of drug transfer to the fetus. *Clin. Obstet. Gynecol.* 36(2): 246–254. Summarizes the most current information available on the manner in which cocaine, opiates, and marijuana are transferred from the drug-using pregnant women to her fetus. Provides the reader with a solid background on the maternal-fetal pharmacokinetics of three of the most common drugs of misuse.

WILSON, G. S. (1989). Clinical studies of infants and children exposed prenatally to heroin. *Ann. N. Y. Acad. Sci.* 562: 183–194. Comprehensive review of the literature on the association of maternal opiate use during pregnancy with developmental outcomes in exposed infants and children. Cautious conclusions are drawn about the apparent cognitive and visual-motor deficits in heroin-exposed children.

Empirical Articles

BAUCHNER, H., ZUCKERMAN, B., McCLAIN, M., FRANK, D., FRIED, L. E., and KAYNE, H. (1988). Risk of sudden infant death syndrome among infants with in utero exposure to cocaine. *J. Pediatr.* 113: 831–834. Follow-up of a large sample of infants recruited prenatally found that infants who were prenatally exposed to cocaine were not at an increased risk for Sudden Infant Death Syndrome relative to nonexposed infants despite previous reports of such a relationship.

CHASNOFF, I. J., BURNS, W. J., SCHOLL, S. H., and BURNS, K. A. (1985). Cocaine use in pregnancy. *N. Engl. J. Med.* 313: 666–669. The authors' early reports on outcomes of cocaine use in pregnancy which raised initial concerns about medical and behavioral problems in offspring.

CHASNOFF, I. J., GRIFFITH, D. R., FREIER, C., and MURRY, J. (1992). Cocaine/polydrug use in pregnancy: Two-year follow-up. *Pediatrics* 89(2): 284–289. Although the authors' previous work has been criticized, this remains the only longitudinal study of the developmen-

tal effects of prenatal cocaine and poly drug exposure. Although all group means were within normal limits, two-year-olds were found to have drug-related differences in head growth, and more drug- and alcohol-exposed children were noted to show risk status on developmental tests.

COLES, C. D., PLATZMAN, K. A., SMITH, I., JAMES, M. E., and FALEK, A. (1992). Effects of cocaine and alcohol use in pregnancy on neonatal growth and neurobehavioral status. *Neurotoxicol. Teratol.* 14: 23–33. One of the first empirical articles to provide methodological criticism of previous cocaine literature as well as data addressing those issues. Cocaine in pregnancy was associated with deficits in growth but not with behavioral effects in the neonatal period or at 28 days of age.

DAY, N., SAMBAMOORTHI, U., TAYLOR, P., RICHARDSON, G., ROBLES, N., JHON, Y., SCHER, M., STOFFER, D., CORNELIUS, M., and JASPERSE, D. (1991). Prenatal marijuana use and neonatal outcome. *Neurotoxicol. Teratol.* 13: 329–334. This is a well controlled and executed study of the effects on the newborn of moderate marijuana use during gestation. Growth and gestational age were not affected after statistical control of covariates.

DESMOND, M. M., and WILSON, G. S. (1975). Neonatal abstinence syndrome: Recognition and diagnosis. *Addict. Dis.* 2(1): 113–121. An early description of the effects on the newborn of prenatal opiate exposure. It describes the behavioral and physiological effects on the infant of withdrawal from dependence on opiates.

ERIKKSON, M., JONSSON, B., STENEROTH, G., and ZETTERSTROM, R. (1994). Cross-sectional growth of children whose mothers abused amphetamines during pregnancy. *Acta Paediatr.* 83: 612–617. Although the authors of this article, based on a longitudinal study of a Swedish sample of children born to women who used amphetamines during pregnancy, conclude that amphetamine use during pregnancy is related to some measures of decreased growth and to increased environmental risk, they acknowledge significant weaknesses in their study, such as the lack of a control group and the inability to control for the use of other drugs, such as heroin, alcohol, and nicotine, by mothers in this study.

FORREST, F., FLOREY, C. V., TAYLOR, D., McPHERSON, F., and YOUNG, J. A. (1991). Reported social alcohol consumption during pregnancy and infants' development at 18 months. *Br. Med. J.* 303: 22–26. A large epidemiological study in Britain found no effect of tobacco use and higher developmental scores for children of alcohol users. This is in contrast to United States studies reporting equivalent exposure and points out the differences in outcomes often observed in different settings.

FRIED, P. A., O'CONNELL, C. M., and WATKINSON, B. (1992). 60- and 72-month follow-up of children prenatally exposed to marijuana, cigarettes, and alcohol: Cognitive and language assessment. *J. Dev. Behav. Pediatr.* 13(6): 383–391. Follow-up of sample of middle-class Canadian children finding some effects of cigarette and alcohol use although all children are well within the normal range of development.

GRIFFITH, D. R., AZUMA, S. D., and CHASNOFF, I. J. (1994). Three-year outcome of children exposed prenatally to drugs. *J. Am. Acad. Child Adolesc. Psychiatry* 33(1): 20–27. This is a report of the status at 3-years of the cohort of 93 children mentioned above (Chasnoff et al., 1992). Some effects on intellectual performance are noted; children exposed to drugs of any kind, including cocaine, showing slightly lower scores than those in the nonexposed contrast group. All scores were within normal limits.

HANS, S. L. (1989). Developmental consequences of prenatal exposure to methadone. *Ann. N. Y. Acad. Sci.* 562: 195–207. A longitudinal study examining the behavior of infants of mothers who were in a low-dose methadone-maintenance program during pregnancy found that

during the first month of life, methadone-exposed infants displayed clear signs of Neonatal Abstinence Syndrome and, at two years of age were shorter, had a smaller head circumference, and had delayed motor development relative to comparison infants.

HAYES, J. S., DREHER, M. C., and NUGENT, J. K. (1988). Newborn outcomes with maternal marihuana use in Jamaican women. *Pediatr. Nurs.* 14(2): 107–110. At one month of age, infants born to a sample of Jamaican marijuana users demonstrated more organized behavioral state patterns, were more alert, and were more socially interactive that nonexposed infants. These findings highlight the importance of considering sociocultural, postnatal environmental, and caregiving factors when drawing conclusions about the long-term developmental implications of prenatal drug exposure.

JACOBSON, J. L., JACOBSON, S. W., SOKOL, R. J., MARTIER, S. S., AGER, J. W., and KAPLAN-ESTRIN, M. G. (1993). Teratogenic effects of alcohol on infant development. *Alcoholism: Clin. Exp. Res.* 17(1): 174–183. Well-controlled study of effect of prenatal alcohol exposure in low income, African-American, 13-month olds, finding that moderate to heavy drinking affects cognitive and motor development, particularly in children of women older than 30.

JONES, K. L., SMITH, D. W., ULLELAND, C. N., and STREISSGUTH, A. P. (1973). Pattern of malformation in offspring of chronic alcoholic mothers. *Lancet* 1: 1267–1271. One of the original articles describing the Fetal Alcohol Syndrome. The description of the characteristics of the disorder are those which are currently used.

KYLLERMAN, M., ARONSON, M., SABEL, K. G., KARLBERG, E., SANDIN, B., and OLEGARD, R. (1985). Children of alcoholic mothers. Growth and motor performance compared to matched controls. *Acta Paediatr. Scand.* 74(1): 20–26. Follow-up of affected children in Sweden, demonstrating long-term effects on motor skills in this clinical sample.

LEMOINE, P., and LEMOINE, P. (1992). Avenir des enfants de meres alcoliques (Etude de 105 cas retrouves à l'age adulte) et quelques constatations d'interet phrophylactique. [Outcome of children of alcoholic mothers (study of 105 cases followed to adult age) and various prophylactic findings.] *Ann. Paediatr.* 39(4): 226–235. The pediatricians who first described the effects of prenatal alcohol exposure discuss the long-term outcome in these patients, which is generally negative.

LIFSHITZ, M. H., WILSON, G. S., SMITH, E. O., and DESMOND, M. M. (1983). Fetal and postnatal growth of children born to narcotic-dependent women. *J. Pediatr.* 102: 686–691. Careful study of the observable behavior of infants prenatally exposed to opiates. Classic signs of neonatal withdrawal as well as alterations in infant behavior as measured by neonatal tests are described.

McCARTNEY, J. S., FRIED, P. A., and WATKINSON, B. (1994). Central auditory processing in school-age children prenatally exposed to cigarette smoke. *Neurotoxicol. Teratol.* 16(3): 269–276. The authors report a relationship between prenatal exposure to cigarette smoke and poorer performance on an auditory processing screening test even when exposure to other drugs is controlled.

OLEGARD, R., SABEL, K. G., ARONSSON, M.,, SANDIN, B., JOHANSSON, P. R., CARLSSON, C., KYLLERMAN, M., IVERSEN, K., and HRBEK, A. (1979). Effects on the child of alcohol abuse during pregnancy: Retrospective and prospective studies. *Acta Paediatr. Scand. Suppl.* 275: 112–121. An early article describing the incidence and characteristics of fetal alcohol syndrome in Sweden. The authors were among the first to note that treatment of women during pregnancy, which was associated with reduction or abstinence, resulted in improved infant outcomes.

PIEROG, S., CHANDAVASU, O., and WEXLER, I. (1977). Withdrawal symptoms in infants with the Fetal Alcohol Syndrome. *J. Pediatr.* 90(4): 630–633. The authors identified a number of children with FAS and described their behavior in the neonatal period, making the case that they showed a Neonatal Abstinence Syndrome that is similar to that seen in opiate-exposed neonates.

RICHARDSON, G. A., and DAY, N. L. (1991). Maternal and neonatal effects of moderate cocaine use during pregnancy. *Neurotoxicol. Teratol.* 13: 455–460. Well-controlled empirical study of the effects of prenatal cocaine exposure finding little evidence of behavioral effects.

STREISSGUTH, A. P., AASE, J. M., CLARREN, S. K., RANDELS, S. P., LADUE, R. A., and SMITH, D. F. (1991). Fetal Alcohol Syndrome in adolescents and adults. *J. Am. Med. Assoc.* 265: 1961–1967. Long-term follow-up showing persistence of effects and poor social functioning in older individuals diagnosed with FAS. Severity of outcome is predicted by the presence of alcohol-related dysmorphology and poor caregiving.

WILSON, G. S., McCREARY, R., KEAN, J., and BAXTER, J. C. (1979). The development of preschool children of heroin-addicted mothers: A controlled study. *Pediatrics* 63(1): 135–141. A follow-up of heroin-exposed children at 3 to 6 years finding evidence of developmental problems in growth and behavior.

ZUCKERMAN, B., FRANK, D. A., HINGSON, R., AMARO, H., LEVENSON, S. M., KAYNE, H., PARKER, S., VINCI, R., ABOAGYE, K., FRIED, L. E., CABRAL, H., TIMPERI, R., and BAUCHNER, H. (1989). Effects of maternal marijuana and cocaine use on fetal growth. *N. Engl. J. Med.* 320: 762–768. A large prospective study examining the anthropometric outcomes of neonates prenatally exposed to marijuana or cocaine. Infants exposed to marijuana and/or cocaine during pregnancy were found to have decreased measures of fetal growth, such as birth length, birth weight, and head circumference, even when other potentially confounding variables were statistically controlled.

Key words. Substance abuse; Pregnancy; Abnormalities—drug induced; Fetal alcohol syndrome; Teratology

METHODOLOGY

Review Articles

COYLE, I., WAYNER, M. J., and SINGER, G. (1976). Behavioral teratogenesis: A critical evaluation. *Pharmacol. Biochem. Behav.* 4: 191–200. Defines the field of behavioral teratology and includes a thought-provoking discussion of methodological issues which must be addressed when conducting teratogenic research with animals or humans and of some of the potential biological mechanisms underlying developmental outcomes associated with prenatal substance exposure. The developmental outcomes of less reviewed teratogens such as antidepressants and amphetamines are also briefly reviewed.

DAY, N. L., and ROBLES, N. (1989). Methodological issues in the measurement of substance use. *Ann. N. Y. Acad. Sci.* 562(8): 8–13. This review of methodological issues which should be addressed in the measurement of substance use during pregnancy focuses on the advantages and disadvantages of using a questionnaire to retrospectively assess maternal substance use during pregnancy.

HAWKS, R. L., and CHIANG, C. N. (1986). Examples of specific drug assays. *NIDA Res. Monogr.* 117: 84–114. Ten drugs, including marijuana, cocaine, opiates, and alcohol, are presented with information on how the body handles the drug, methods of analysis, special considerations (such as length of time detectable), and a reference list for each drug.

KLEIN, R. F., FRIEDMAN-CAMPBELL, M., and TOCCO, R. V. (1993). History taking and substance abuse counseling with the pregnant patient. *Clin. Obstet. Gynecol.* 36(2): 338–346. Discusses effective procedures for interviewing and recognizing the symptoms of the pregnant substance user. In addition to diagnosing substance use, guidelines for counseling and referring the pregnant substance user to treatment programs are also provided.

KOZEL, N. J. (1990). Epidemiology of drug abuse in the United States: A summary of methods and findings. *Bull. Pan Am. Health Organ.* 24: 53–62. A good overvview of the different methods of estimating and monitoring drug use. Surveys, indicators (treatment data, drug-related emergencies, and deaths), and ethnography are discussed.

OSTREA, E. M. (1992). Detection of prenatal drug exposure in the pregnant woman and her newborn infant. *NIDA Res. Monogr.* 117: 61–79. Discusses the advantages and disadvantages of more recent methods for detecting prenatal drug exposure in the mother or infant. Maternal interviews, various methods of analyzing urine or blood, meconium analysis, and hair analysis are all critically reviewed.

SOKOL, R. J., AGER, J. W., and MARTIER, S. S. (1992). Methodological issues in obtaining and managing substance abuse information from prenatal patients. *NIDA Res. Mongr.* 117: 80–97. Presents issues related to the collection of reliable and valid data on maternal substance use during pregnancy. Issues concerning the quantification, data management, and statistical analysis of those data are also discussed in detail.

VORHEES, C. V. (1986). Principles of behavioral teratology. In E. P. Riley and C. V. Vorhees (Eds.), *Handbook of Behavioral Teratology* (pp. 23–48). New York, NY: Plenum Press. This chapter describes the mechanisms and general principles of behavioral teratology by defining their overlap with previously defined general principles of physical teratology and by describing new principles which account for features unique to behavioral teratogens.

Empirical Articles

KOREN, G., SHEAR, H., GRAHAM, K., and EINARSON, T. (1989). Bias against the null hypothesis: The reproductive hazards of cocaine. *Lancet* 2: 1440–1442. A study of all abstracts submitted to the Society of Pediatric Research over a ten-year period found that studies showing null effects of prenatal exposure to cocaine on developmental outcomes were significantly more likely to be rejected for presentation than studies showing adverse effects of prenatal exposure to cocaine. The authors conclude that this scientific bias against null findings may lead to exaggerated estimates of adverse effects of maternal cocaine use on the developing fetus.

McLELLAN, A. T., KUSHNER, H., METZGER, D., PETERS, R., SMITH, I., GRISSOM, G., PETTINATI, H., and ARGERIOU, M. (1992). The fifth edition of the Addiction Severity Index. *J. Substance Abuse Treatment* 9: 199–213. A description of the most recent version of the Addiction Severity Index, a widely used standardized structured interview used to determine the severity of an individual's addiction to any potentially abusive substance. Normative data for a wide range of populations, including pregnant women, are included.

RUSSELL, M., MARTIER, S. S., SOKOL, R. J., MUDAR, P., BOTTOMS, S., JACOBSON, S., and JACOBSON, J. (1994). Screening for pregnancy risk-drinking. *Alcoholism: Clin. Exp. Res.* 18: 1156–1161. An empirical study comparing the effectiveness of the TWEAK, T-ACE, MAST, NET, and CAGE for assessing risk-drinking in pregnant women. Addresses the issues of sensitivity versus specificity, order of administration effects, and the appropriateness of the different measures for research and clinical purposes.

Key words. Pregnancy; Substance abuse; Methodology; Substance dependence—methodology

RESOURCE LIST

For additional information, contact any of the following agencies or programs:

AAA
6000 Executive Boulevard, Suite 400
Bethesda, MD 20892-7003
Telephone: (301) 443-3885

Center for Substance Abuse Treatment (CSAT/SAMHSA)
Parklawn Building, Rockwall II
5600 Fishers Lane
Rockville, MD 20857
Telephone: (301) 443-5052

Child Welfare League of America
440 First Street, NW, Suite 310
Washington, D.C. 20001-2085
Telephone: (202) 638-2852

Healthy Mothers, Healthy Babies Coalition
American College of Obstetrics & Gynecologists
Department of Public Information
409 12th Street, SW, Rm. 523
Washington, D.C. 20024-2188
Telephones: (202) 638-5577
(202) 863-2458

March of Dimes Birth Defects Foundation
1275 Mamaroneck Avenue
White Plains, NY 10605
Telephone: (914) 428-7100

National Association for Perinatal Addiction, Research and Education (NAPARE)
11 East Hubbard Street, Suite 200
Chicago, IL 60611
Telephone: (312) 329-2512

National Clearinghouse for Alcohol and Drug Information
P.O. Box 2345
Rockville, MD 20852
Telephones: (800) 729-6686
(301) 468-2600

National Coalition on Alcohol & Drug Dependent Women & Their Children
National Council on Alcoholism & Drug Dependence (NCADD)
1511 K Street, NW

Washington, D.C. 20005
Telephones: (202) 544-5478
(202) 737-8122

National Institute on Alcohol Abuse & Alcoholism (NIAAA); National Institute on Drug Abuse (NIDA)
5600 Fishers Lane
Rockville, MD 20857
Telephone: (301) 468-2600

National Women's Resource Center
515 King Street, Suite 410
Alexandria, VA 22314
Telephones: (703) 836-8761
(800) 354-8824

RESUMEN

El entendimiento de los efectos del abuso de sustancias químicas nocivas por parte de mujeres embarazadas y de madres de niños pequeños requiere el conocimiento de la epidemiología del uso y abuso de las drogas y el alcohol por parte de la mujer, del tratamiento de mujeres químico-dependientes durante y después del embarazo, del impacto de la exposición prenatal sobre el desarrollo ulterior del niño y finalmente, de puntos metodológicos relacionados con estos campos. Esta bibliografía provee una lista de artículos clásicos y recientes en estas áreas, así como información acerca de investigaciones existentes en estas àreas.

RÉSUMÉ

Comprendre les effets de l'usage abusif de substances par les femmes enceintes et les mères de jeunes enfants exige de connaître l'épidémiologie de l'usage et de l'abus d'usage des drogues et de l'alcool par les femmes, le traitement des femmes enceintes et post-partum sous dépendance de produits chimiques, l'impact de l'exposition prénatale sur le résultat et le développement ultérieur de l'enfant et enfin les points méthodologiques relatifs à ces domaines. Cette bibliographie fournit une liste d'articles récents et classiques traitant de ces sujets ainsi que des informations sur la recherche dans ces domaines.

母親的物質使用：
一個選擇性的書目

要明瞭懷孕婦女及有年輕子女的母親的物質濫用的效應，必須認識女性藥物和酒精使用的病源學特徵、懷孕及產後變得依賴化學物質的女性，產前的暴露對後代結果和之後發展的衝擊，以及最後是有關這些領域的方法學上的問題。本書目提供一個有關這些領域的近期及經典文章的目錄，以及在這些領域裡的研究的消息。

تعاطي المخدرات: بيبليوغرافيا مختارة

خلاصة:

ان فهم تأثيرات تعاطي المخدرات من قبل النساء الحوامل وامهات الاطفال الصغار يتطلب معرفة بعلم الاوبئة المتعلق بتعاطي المرأة للمخدرات او الكحول ومعرفة بعلاج المراة الحامل كيماويا وتاثير تعرضها لهذا لما قبل الولادة على نتائج النسل والنمو ومنهم لقضايا منهجية لها علاقة بهذه المجالات.

هذه البيبليو جرافيا تزودنا بقائمة لمقالات كلاسيكية واخرى حديثة في هذه المجالات اضافة الى معلومات عن البحث في المجالات ذاتها.

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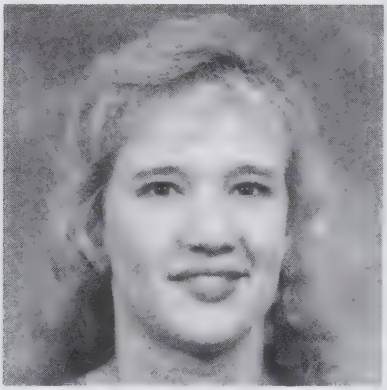

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Ethnicity and Substance Use

Alcohol-Use-Related Problems in Puerto Rican and Irish-American Males

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ABSTRACT

This study compared the alcohol-use-related problems of Puerto Rican and Irish-American men: groups sometimes considered at "high risk" for the development of such problems. It was found that Irish-American men had higher lifetime prevalence rates in the following areas: excessive intake, tolerance and/or dependence, physical or psychological problems associated with alcohol misuse, and social and/or occupational problems associated with alcohol misuse. Results are discussed in terms of Puerto Rican and Irish-American risk status and the importance of appropriate comparisons in studies focused on culture/ethnicity and alcohol consumption.

Key words. Alcohol problems; Hispanic; Puerto Rican; Irish-American; Ethnicity

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INTRODUCTION

Comparative studies (Caetano, 1988; Burnam et al., 1987) indicate that Mexican-American males may be at relatively "high risk" for the development of "alcohol abuse" and alcohol-use-related problems. The generality of this elevated risk status to subgroups of Mexican-American men as well as to "Hispanic" men in general, however, remains open to debate. For example, Caetano's (1985a, 1989) national survey of Hispanic drinking revealed that Mexican-American male risk status was affected by such variables as age, education, and geographic location. At the same time, Burnam et al. (1987) found a positive relationship between acculturation level and rates of Mexican-American "alcohol abuse and dependence."

The issue of relative risk status is no less difficult to discern in research on Puerto Rican drinking, the second largest Hispanic subgroup in the United States. A 1967 study by Haberman and Scheinberg (1968) in New York City found that Puerto Rican males had the highest "implicative drinking" scores while Gordon's (1985) comparison of three Hispanic subgroups observed considerably more "heavy" drinking among Puerto Rican than among Dominican and Guatemalan males. However, Canino et al.'s (1992) comparison of Puerto Rican men residing in Puerto Rico and men in the general United States population failed to uncover elevated problem rates in the Puerto Rican sample.

Although many researchers in the area have assessed relative risk status by employing general population rates as a baseline, an alternative approach is available. Imputed "risk status" could also be determined by comparing a target group's alcohol-use-related problem rates with those of an ethnic group known to be at relatively high risk. Segal (1986) employed this strategy indirectly when he sought to demonstrate that Russians were at relatively "high risk" by comparing them with Irish-Americans. He highlighted Irish-Americans because earlier research (Vaillant, 1983; Greeley et al., 1980; Muhlin, 1985; Stivers, 1985) had validated their "high risk" status. Such a strategy could be helpful in determining the relative risk status of Puerto Rican men for specific alcohol-use-related problems.

The present study employed this strategy to determine the relative risk status of *mainland* Puerto Rican men by comparing their alcohol-use-related problem rates and those of Irish-American men. In so doing, this research sought to determine whether mainland Puerto Rican men were at relatively "high risk" for the development of such problems. Based upon Caetano's and Canino's previous work and an earlier comparison (Johnson, 1995) which revealed that Irish-American men reported more frequent drinking and intoxication than Puerto Rican men, Puerto Rican men were expected to possess lower problem rates than Irish-American men.

METHOD

Subjects

Subjects were 260 Puerto Rican males and 258 Irish-American males. In line with Census Bureau procedures for assessing ethnicity, an individual was identified as Puerto Rican by having been born in Puerto Rico or as Irish by having been born in Ireland, or by descent through a Puerto Rican/Irish mother, father, or both mother and father. While there can be little doubt that the two groups differed with respect to generation status and level of assimilation, the present descriptive study sought only to determine the lifetime prevalence rates of males identified through Census Bureau procedures as Puerto Rican or Irish-American.

Subjects, who were interviewed between 1991 and 1992, resided in the greater New York metropolitan area. Each was paid $10 for the interview. Table 1 presents the distributions of selected demographic characteristics of each ethnic group.

Procedure

Personal interviews were conducted using a household survey format. Potential respondents were informed that they would be paid for their time and that the interview was part of a study on culture and drinking behavior being conducted by the Hispanic Research Center at Fordham University.

An innovative sampling approach was necessary because a straight probability sampling of Puerto Ricans and Irish-Americans would produce two samples with essentially noncomparable socioeconomic characteristics. Matching techniques were therefore used to favor selection of area block groups which, according to census data, contained members of each ethnic group of similar socioeconomic status. Households in these block groups became the primary sampling units of the study.

The sample consisted of Puerto Rican and Irish-American adults aged 18 and over who resided in households in the selected blocks. Interviews averaged 75 minutes in length. For Puerto Ricans, interviews were conducted in English or Spanish according to the preference of the respondent. Sampling, fieldwork, coding, and the construction of the data tape were conducted by Temple University's Institute for Survey Research. Interviews were conducted by trained interviewers. Many of the interviewers had recently worked on the 1990 United States Census and all were involved in a pair or 2-day training workshops. Male and female interviewers between the ages of 25 and 65 took part in the project. Approximately one-third of the interviewers were bilingual in Span-

Table 1.

Distribution of Selected Demographic Characteristics by Ethnic Group (in percent)

	Mainland Puerto Ricans (n = 262)	Irish-Americans (n = 255)
Marital status:		
Single	21	33
Married	61	50
Cohabiting	6	3
Separated	3	2
Divorced	7	6
Widowed	2	6
Age	44.4	43.9
Years of education	10.8	12.5***
Income[a]	5.7	7.1***
Occupational status:		
Work full time	60	67
Work part time	6	5
Other	34	28
Religious affiliation:		
Protestant	2	6
Catholic	76	91
Atheist/agnostic	0	2
Other	22	1
Nativity:		
Foreign born	64	17
United States born	36	83

[a]Income level was based on a 10-point scale where 1 indicated an annual income of less than $4,000 and 10 indicated an annual income of over $60,000.
***$p < .001$.

ish and English. While screening rates were 97.1 and 93.1 for the Puerto Rican and Irish samples, refusal rates were 84.2 and 68.8.

Measures

Responses for each respondent were weighted to compensate for unequal probabilities of selection and differential levels of nonresponse across demographic subgroups. The final weight allocated to each respondent represented was equal to the product of weights based on screening nonresponse, eligibility, interview nonresponse, and post-stratification.

Alcohol Use Problems

Respondents who reported consuming alcohol at some point in their lives were queried regarding whether they had experienced any of a series of prob-

lems related to alcohol use at some point in their lives. The problem questions came from the Diagnostic Interview Schedule employed in the Epidemiological Catchment Area Studies (Robins, 1989). The following problem areas were assessed: excessive drinking, dependence/tolerance, physical and psychological problems, social and occupational dysfunction.

RESULTS

Initial analyses examined group differences in sociodemographic characteristics. While no difference was found in the mean age of the Puerto Rican and Irish-American respondents (X = 44.3, SD = 16.1 vs X = 43.9, SD = 17.8, respectively, $T < 1$), Puerto Rican men were less educated (X = 10.8, SD = 3.6 vs X = 12.5, SD = 3.2; T = 5.79, df = 515, $p < .001$) and less well off socioeconomically (X = 5.7, SD = 2.2 vs X = 7.1, SD = 2.1; T = 6.91, df = 448, $p < .001$) than Irish-American men.

Alcohol problems generally focus on specific areas of functioning and behavior. These problems are frequently placed within a conceptual scheme around such areas as dependence, physical and psychological problems, and social and occupational dysfunction. In the present paper, problems were organized into four conceptual categories following Burnam's work (1988): indicators of excessive drinking, indicators of dependence and/or tolerance, indicators of physical or psychological problems associated with alcohol misuse, and indicators that alcohol misuse interfered with social or occupational functioning.

Table 2 summarizes the problems in each of these areas. Only males who had consumed alcohol at some time in their lives were included in the following analyses. Binge drinking and alcohol-use-related blackouts have been previously associated with excessive alcohol consumption (Cahalan and Room, 1974). Analyses revealed that among Irish-American and Puerto Rican men who had consumed alcohol, Irish-American men had significantly higher lifetime prevalence rates of binge drinking (23 vs 13%), (χ^2 = 7.63 df = 1, $p < .01$) and blackouts (27 vs 7%), (χ^2 = 37.25, df = 1, $p < .001$).

As indicated in Table 2, Irish-American men were also more likely than their Puerto Rican counterparts to have experienced each of eight dependence and tolerance indicators at some point in their lives including an uncontrollable urge to drink (χ^2 = 29.23, df = 1, $p < .001$), drinking despite the presence of physical problems (χ^2 = 25.34, df = 1, $p < .001$), needing to drink more to obtain the same effects (χ^2 = 35.22, df = 1, $p < .001$), needing alcohol to help function (χ^2 = 27.68, df = 1, $p < .001$), inability to quit or cut down (χ^2 = 39.54, df = 1, $p < .001$), curtailing other activities to drink (χ^2 = 25.15, df = 1, $p < .001$), regularity of consumption (χ^2 = 27.47, df = 1, $p < .001$), drinking longer than intended (χ^2 = 69.64, df = 1, $p < .001$).

Table 2.

Lifetime Problem Rates by Specific Categories (in percent)[a]

	Puerto Rican men	Irish-American men
Excessive drinking:		
1. Binges	15.2	23.0**
2. Blackouts	7.7	27.8***
Dependence/tolerance indicators:		
1. Continue drinking after physical problems develop	8.1	29.0**
2. Can't resist urge to drink	7.8	17.3**
3. Drank more than intended	13.4	43.8**
4. Had to drink more to produce the same effects	9.5	23.8**
5. Need to drink to help function	4.2	11.8**
6. Tried to quit or cut down	19.8	39.4**
7. Given up other activities to drink	6.9	13.7**
8. Drink so regularly that would not change	6.5	14.5**
Physical and psychological problems:		
1. Jaundice	3.9	2.8
2. Vomit blood	2.6	4.0
3. Numbness	4.3	8.5*
4. Memory loss	5.6	12.0**
5. Pancreatitis	<1	1.2
6. Shakes	3.5	13.9***
7. Insomnia	5.7	17.1***
8. Sweats	4.8	13.9***
9. Heart palpitations	3.5	12.7***
10. DT's	1.3	7.6***
11. Nausea	11.2	20.7**
13. Weakness	4.8	15.1***
14. Headaches	12.1	21.5**
14. Fits	<1	2.4*
15. Depression	10.8	23.6***
16. Paranoia	7.4	12.4*
17. Strange ideas	8.2	14.0*
18. Hallucinations	1.9	6.4**
Social and occupational dysfunction:		
1. Family objects	22.1	36.5***
2. Friends object	8.1	14.7*
3. Boss objects	3.9	13.1***
4. Doctor or clergy try to persuade to stop	7.5	15.1**
5. Physical fights	11.8	33.1***
6. Drinking interferred with work or child care	2.7	14.1***

[a] χ^2 comparisons.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Clearly, a greater proportion of Irish-American than Puerto Rican men had been dependent on alcohol or had developed a tolerance to it.

The findings were only slightly less consistent with respect to physical or psychological problems related to excessive alcohol use. Irish-American men were not more likely to have developed jaundice and pancreatitis or to have vomited blood because of drinking. They were, however, more likely to have experienced numbness (8 vs 4%) ($\chi^2 = 4.44$, $df = 1$, $p < .05$), the shakes (14 vs 3%) ($\chi^2 = 18.63$, $df = 1$, $p < .001$), heart palpitations (13 vs 3%) ($\chi^2 = 15.53$, $df = 1$, $p < .001$) and other physical symptoms. At the same time, Irish-American men were also more likely to have experienced various psychological problems vis-à-vis their drinking such as hallucinations (6 vs 1%) ($\chi^2 = 11.29$, $df = 1$, $p < .001$), paranoia (12 vs 7%) ($\chi^2 = 4.69$, $df = 1$, $p < .05$), and depression (17 vs 6%) ($\chi^2 = 13.97$, $df = 1$, $p < .001$).

With regard to alcohol-use-related problems associated with social and occupational impairment, it is evident that Irish-American men possess higher rates both in terms of home- and work-related objections to drinking ($\chi^2 = 34.39$, $df = 1$, $p < .001$ and $\chi^2 = 34.52$, $df = 1$, $p < .001$, respectively), drinking interfering with work or child-care responsibilities ($\chi^2 = 47.10$, $df = 1$, $p < .001$), and drinking associated with physical fights ($\chi^2 = 54.96$, $df = 1$, $p < .001$). Once again, we see consistently higher problem rates in the Irish-American than the Puerto Rican men.

Since the literature on Hispanic male drinking suggests that their alcohol problems begin later in life than the general population and continue longer into middle age and beyond (Caetano, 1985a), it was necessary to determine whether age and ethnicity interacted to influence the presentation of lifetime alcohol problems. An analysis of variance revealed both ethnic and age differences, but no interaction. While Irish-American males ($X = 6.87$) reported more problems than their Puerto Rican counterparts ($X = 3.12$), ($F = 6.42$, $df = 1$ and 456, $p < .01$), men in the 30–39 age cohort reported more problems than the other cohort ($F = 2.63$, $df = 4$ and 456, $p < .05$). Subsequent Tukey pairwise comparisons revealed that men 30–39 reported significantly more problems than either men 20–29 or 60 and older ($p < .05$).

DISCUSSION

Caetano (1985b) has suggested that "high risk" status for "alcohol abuse" and alcohol-use-related problems is not a characteristic of Mexican-American men or of Hispanic men generally. The present comparison of Puerto Rican and Irish-American alcohol-use-related problem rates supports his position. With respect to almost every type of problem, Puerto Rican men reported lower lifetime prevalence rates. Puerto Rican men were less likely to report

excessive drinking and tolerance and dependence indicators. They were also less likely to have experienced alcohol-use-related physical and psychological health problems and social and occupational impairment in their lives. Such findings certainly indicate that Puerto Rican men are not at high risk for alcohol-use-related problems, at least in comparison with Irish-American men while once again highlighting the relatively high risk status of Irish-American men.

Research (Makela, 1978; Park, 1983; Hilton, 1991a, 1991b) reveals an inverse relationship between educational and socioeconomic levels and alcoholism and alcohol problem. That is, the poor and less well-educated generally report higher rates of alcohol-use-related problems. This was certainly not the case in the present study as the more highly educated and socioeconomically well-to-do Irish-American men reported higher rates than the Puerto Rican men in almost every area of alcohol problems. This suggests that factors other than education and socioeconomic status must have produced these differences. One such factor is acculturation which has previously been associated with higher levels of "alcohol abuse" and alcohol-use-related problems (Burnam et al., 1987).

That Irish-American men reported consistently higher problem rates despite their relatively higher socioeconomic status may reflect the persistence of ethnicity's powerful influence on Irish-American drinking behavior (Greeley et al., 1980). Or, as others have argued, many ethnic and religious group drinking differences cannot be primarily attributable to sociological characteristics since they persist even after these characteristics have been controlled.

Alternatively, the sharp differences in lifetime prevalence rates of Puerto Rican and Irish-American male alcohol-use-related problems may have resulted, in part, from the relative economic deprivation of the two samples vis-à-vis their respective ethnic referents. While the Puerto Rican sample was a relatively high status Puerto Rican group, the Irish-American sample was a relatively low status Irish-American group.

Research has shown that as Hispanic subgroups become more affluent, male drinking practices are altered in ways which reduce the abusive drinking that produces alcohol-use-related problems. It was found, for example, that as their economic fortunes improved, Hispanic men tended to consume more prestigious brands while consuming less per drinking occasion. At the same time, studies by Gilbert (1987) indicated that increased affluence in Hispanics was associated with reduced male-only drinking and increased mixed-gender drinking.

While relatively more affluent than their Puerto Rican counterparts, the Irish-American men in this study were relatively less affluent than Irish-American men generally. In fact, in attempting to equate the socioeconomic status of the two samples, it was necessary to select Irish-American sampling units

in the lowest end of the Irish-American socioeconomic range. Since the influence of ethnicity is inversely related to an individual's socioeconomic status (Greeley et al., 1980), the drinking behavior of the Irish-American men in this study may have been inordinately influenced by their ethnic background. Accordingly, their relatively high lifetime rates of alcohol-use-related problems could have been anticipated (Stivers, 1978, 1985).

To determine the relative risk status of specific Hispanic subgroups, more studies are needed to compare the group drinking practices of Mexican-Americans, Puerto Ricans, and Cubans (see Gilbert, 1987). Future studies should also be directed to exploring the drinking behaviors of more recent Hispanic immigrant groups including Dominicans, Salvadorians, and Colombians as their numbers increase in the United States. In conducting such comparisons, careful attention should be given to factors such as ethnic self-identity and acculturation level and their relationships to group and individual drinking practices (Caetano, 1988). At the same time, researchers should endeavor not only to compare Hispanic subgroups with one another and with the general population, but also to compare them with specific non-Hispanic subgroups such as Irish-Americans. In conducting such comparisons careful attention should be given to socioeconomic factors and their relationships to group and individual drinking practices. In this way, future research will help us explore the impact of culture, ethnic-identity, and socioeconomic status on the drinking behaviors and alcohol problems of specific ethnic groups. When this is done, alcohol researchers can then turn to the more daunting intellectual task of explaining the etiologies of these differences and their persistence over time.

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RESUMEN

En este estudio se compararon hombres puertorriqueños y hombres irlandeses-americanos en términos de problemas relacionados al consumo de alcohol: estos grupos se consideran como de alto riesgo en este tipo de problema. Los hallazgos indican que entre los hombres irlandeses-americanos existe una tasa de prevalencia por vida más alta en las siguientes áreas: consumo excesivo, tolerancia y/o dependencia, problemas fisicos o psicológicos asociados con el abuso del alcohol, y problemas sociales y/o ocupacionales relacionados con el abuso del alcohol. Los resultados se analizan en términos del nivel de riesgo entre los puertorriqueños y los irlandeses-americanos, y la importancia de hacer comparaciones apropiadas en estudios que exploren la cultura/etnicidad y el consumo de alcohol.

RÉSUMÉ

Cette étude a comparé les problèmes d'alcool des hommes Portoricains et Irlandais-américains: les groups qui sont quelque fois considérés en danger pour le développement de ces problèmes. Il a été trouvé que less hommes Irlandais-américains ont eu les taux éléves de chaque type du problème durant toutes leurs vies: les indicateurs de l'abus de la boisson, les indicateurs des problèmes physiques ou psychologiques liés à l'abus de la boisson, et les indicateurs que l'abus de la boisson a interféré avec les rôles socials et professionals. Les résultats sont discutés en function du niveau de risque des hommes Portoricains et Irlandais-américains et le significance de comparaisons justes dans les études qui concentrent sur la culture/l'ethnicité et la consommation d'alcool.

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Measurements, Instruments, Scales, and Tests

Measuring Affiliation with 12-Step Groups

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ABSTRACT

Seven measures, one of which was a weighted composite of the other six, were used to assess 12-step group affiliation among participants in a 120-day addiction treatment program. The participants completed the six affiliation indicators and three treatment satisfaction measures at the midpoint of their involvement in the program, after they had completed various sociodemographic and psychological measures at admission and before they were eligible for program completion. Compared to each of the six indicators, the composite measure was more robustly related to the sociodemographic, psychological, satisfaction, and program completion variables. Treatment and empirical implications were discussed.

INTRODUCTION

Alcoholics Anonymous (A.A.), Narcotics Anonymous (N.A.), and Cocaine Anonymous (C.A.) are mutual-help groups that address addiction and related problems according to 12 common steps. Although these popular groups are believed to be effective in helping persons achieve sobriety and subjective well-being (Kurtz, 1991; Robertson, 1988), their effectiveness has not been established empirically (Ogbourne, 1993).

Assessing the effectiveness of 12-step groups depends on properly measuring affiliation with them. Such affiliation has been commonly gauged in prior

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studies with single-item, dichotomous measures that tend to have limited variability, reliability, and validity (Ghiselli et al., 1981). For example, affiliators and nonaffiliators have been distinguished in many studies based solely on whether they have attended any, or a certain number, of 12-step group meetings during a specific time period (see Emrick et al., 1993). Because 12-step affiliation is a complex phenomenon with behavioral and subjective features, it is probably best assessed with a composite measure that taps these different features.

Thus, in this study, participants were administered six indicators of 12-step group affiliation after they had been enrolled in a residential treatment program (RTP) for addiction for approximately 60 days. The indicators, which assessed behavioral and subjective aspects of 12-step affiliation, were examined in relation to participant characteristics as well as program satisfaction and completion.

Based on prior research reviewed by Emrick et al. (1993), 12-step affiliation was expected to be stronger for Caucasians and men than for African-Americans and women, respectively. Affiliation was also expected to be stronger for participants who had more extensive problems with addiction but higher psychosocial functioning. Affiliation was also expected to be related to program satisfaction and completion, although the nature of these relations was unclear. Accordingly, treatment satisfaction would be negatively related to 12-step affiliation if participants clearly favored one of these helping resources over the other. On the other hand, these two resources would be positively linked if treatment satisfaction promoted, or was promoted by, 12-step group affiliation. Alternatively, treatment satisfaction and 12-step affiliation may both be positively related to some third variable, like motivation for change, which should also result in a positive relation between them. Because each of these hypothetical relations seemed logical, no prediction was made for the direction of relations among these variables.

METHODS

Sample

The initial sample included 183 indigent, polysubstance users, 103 of whom remained enrolled for at least 2 months and thus were able to complete questionnaires at admission and follow-up (see Notes 1 and 2). Sociodemographic and psychological characteristics for the 103 participants, which did not vary from the sample as a whole, are depicted in Table 1.

Table 1.

Characteristics of Participants

Characteristic	%	Range	*M*	SD
Sex:				
Male	78	—	—	—
Female	22	—	—	—
Race:				
African-American	78	—	—	—
Caucasian	22	—	—	—
Drug of choice:				
Cocaine	62	—	—	—
Alcohol	38	—	—	—
Age	—	20–58	32.00	6.46
Years of education	—	8–20	12.38	2.05
No. of jobs in the past year	—	0–12	2.27	3.57
Days unemployed on admission	—	5–999	213.00	285.61
No. of prior treatments	—	0–15	3.06	8.97
Personal control	—	3.08–5.92	4.34	0.59
Depression	—	0–2.40	0.87	0.49

Treatment Program

The RTP, which had 180 client slots, was located in a large metropolitan area in the Southeastern United States. It was based on a psychosocial, 12-step model of treatment and was designed for a 120-day stay. The RTP was staffed by 25 treatment personnel (i.e., administrators, counselors, and support staff) whose qualifications ranged from high school to doctoral degrees. Caseload sizes for counselors ranged from 10 to 20 clients.

Participants were expected to obtain work during a 2-week job search phase, which began 14 to 21 days after they enrolled in the RTP. To defray some of the costs of their treatment, participants were expected to contribute a portion of their paychecks from this work to the RTP. Abled participants who failed to obtain work or contribute financially to their treatment were generally dismissed from the program.

Participants were expected to attend at least four 12-step meetings per week in the community. More than 1,100 A.A., N.A., and C.A. meetings were held each week in the metropolitan area where this study was conducted.

On-site medical services were provided, but participants who needed medical detoxification before enrollment were referred to other agencies. Besides housing and medical care, the RTP provided addiction and life skills educa-

tion, individual and group counseling, and vocational services. Additional information on the RTP can be found elsewhere (Kingree, 1995; O'Neil and O'Connell, 1991; Smith et al., 1995).

Measures

An intake questionnaire assessed demographic status (sex, race, age, and years of education), employment history (length unemployed on admission, number of jobs during the prior year), nature of addiction (drug of choice, number of addiction treatment episodes), and psychological functioning (personal control, depression). Personal control was assessed with a condensed, 12-item version (α = .60) of the Rotter (1966) Locus of Control Scale (see Kaniasty, 1988), and depression was assessed with the 20-item, CES-D (α = .88) (Radloff, 1977).

A 60-day follow-up questionnaire included six affiliation indicators, which are described in Table 2. The indicators tapped participation in 12-step activities as well as subjective comfort with, and commitment to, 12-step groups (see Note 3). As recommended by Ghiselli et al. (1981), responses to the indicators were converted to *z*-scores before being combined into a composite measure of affiliation. Factor analysis produced weights for the indicators, and with the intercorrelations identified "sponsor" as being most strongly related to the other indicators and the composite.

The follow-up questionnaire also included three satisfaction measures: (a) the 12-item client interaction scale (α = .81; Brekke and Aisley, 1988), which assessed perceived support from peers; (b) an 8-item measure of perceived staff support (α = .87); and (c) a 15-item measure of job satisfaction (α = .86).

Items for the staff support and job satisfaction measures were taken from the Community Programs Evaluations Scales (Moos, 1974) and the Job Satisfaction Survey (Spector, 1985), respectively. A 6-point Likert Scale was used to gauge responses to the control and satisfaction measures. A 4-point Likert Scale was used to gauge responses to the CES-D.

Finally, a dichotomous measure of program completion was collected for all participants. This measure, like all of the others, was coded so that higher scores indicated more of the variable being measured.

RESULTS

The analyses addressed two general questions. First, were participant characteristics assessed at admission prospectively related to 12-step group affiliation? Second, was 12-step group affiliation related cross-sectionally to treatment satisfaction and prospectively to program completion?

Table 2.

Description of Six Affiliation Indicators

	Sponsor	Meetings	Step	12-Step ideology	Sharing	Commitment
Assessment	Obtained directly from participants with a self-report item that indicated if they had a sponsor at the follow-up[a]	Obtained from counselor records and coded dichotomously to reflect if RTP requirement of 4 meetings/week was exceeded[b]	Obtained from counselor records and coded dichotomously to reflect if participants had exceeded the RTP requirement of working on the 3rd or higher step[c]	Obtained directly from participants with a 17-item measure, which had a 6-point Likert response format and adequate reliability (α = .75)[d]	Obtained directly from participants with a self-report item that was coded on a 4-point Likert response format	Obtained directly from participants with a self-report item that was coded on a 5-point Likert response format
Item statistics	82% of sample had a sponsor at follow-up	36% of sample had exceeded RTP requirement in week before follow-up	32% of sample had exceeded RTP requirement in week before follow-up	*R* = 3.82–5.94 *M* = 4.88 SD = 0.92	*R* = 1–4 *M* = 2.66 SD = 0.93	*R* = 1–5 *M* = 3.90 SD = 0.89
r with sponsor	—	—	—	—	—	—
r with meetings	.20*	—	—	—	—	—
r with step	.29**	.09	—	—	—	—

(*continued*)

Table 2. *Continued*

	Sponsor	Meetings	Step	12-Step ideology	Sharing	Commitment
r with ideology	.23*	.19*	.15	—	—	—
r with sharing	.21*	.03	.07	.25**	—	—
r with commitment	.20*	.12	.12	.20*	.20*	—
Factor loadings on composite	.67	.36	.39	.61	.56	.60

[a]Sponsors are experienced 12-step members who provide informal counseling, guidance, and social support for newcomers and other members who generally have less experience or sobriety than themselves. The RTP participants were expected to obtain a sponsor by the time they completed the program.

[b]Participants were expected to verify their attendance at meetings by collecting signatures from the meeting chairpersons. The RTP counselors documented meeting attendance for research and clinical purposes.

[c]Participants advanced through the 12 steps by completing specific work assignments for each one. All participants were expected to have completed the third step by the time of the follow-up. Participants were allowed to advance to a higher step if their counselors deemed that it was appropriate for them to do so. However, no participant had worked beyond the fifth step, which reads "Admitted to God, to ourselves, and to another human being the exact nature of our wrongs" by the time of the follow-up.

[d]12-step ideology refers to a set of beliefs about substance abuse and recovery that is promulgated through 12-step group meetings, literature, and association with 12-step group members.

*$p < .05$.

**$p < .01$.

Chi-square analysis was used to assess relations between two nominal variables, analysis of variance (ANOVA) was used to assess relations between one nominal and one continuous variable, and Pearson correlations were used to assess links between two continuous variables. Based on the relatively small sample size as well as pertinent recommendations concerning appropriate power made by Cohen (1992), results with *p*-values less than .10 are reported.

12-Step Group Affiliation and Participant Characteristics

Table 3 presents statistical results from predictions of affiliation based on the predictor variables. As shown, "sponsor" was significantly predicted by drug of choice. A sponsor had been obtained by 87% of the participants who favored cocaine but by 71% of those who favored alcohol. "Sponsor" was also marginally predicted by sex and age, as a sponsor had been obtained by more males (85%) than females (68%), and those who had obtained a sponsor tended to be older than those who had not (*M*s = 32 and 30 years, respectively).

The "meetings" variables was not predicted by any of the admission variables. Further, "step" was predicted only by age as the group of participants who had exceeded the RTP expectation by working on the fourth or a higher step were older (M = 33 years) than those (M = 30 years) who had not exceeded the expectation.

"Ideology" was significantly predicted by drug of choice. Participants who favored cocaine showed more acceptance of the 12-step ideology (M = 4.99) than did those who favored alcohol (M = 4.77). Ideology was also positively but marginally related to unemployment and depression, with greater acceptance of the ideology at follow-up reported by participants with longer unemployment and more depression on admission.

"Sharing" was significantly predicted by race with African-Americans (M = 2.74) reporting more ease with sharing than did Caucasians (M = 2.24). Sharing was also positively predicted by education and personal control as participants who reported more education and control on admission were more comfortable sharing in 12-step group meetings at follow-up than were their counterparts. Sharing was also marginally predicted by sex as males (M = 2.44) tended to report more comfort with sharing than did females (M = 2.05).

"Commitment" was negatively predicted by number of jobs in the past year, and positively, albeit marginally, predicted by control. Participants with fewer jobs and more personal control reported greater commitment at follow-up.

Finally, the affiliation composite was positively predicted by control such that stronger overall affiliation was related to more control on admission. The affiliation composite was marginally predicted by sex, race, and drug of choice such that male (M = .18), African-American (M = .61), and cocaine-preferring (M = .24) participants tended to report more affiliation than their coun-

Table 3.

Prospective Relations between Predictor Variables Collected at Admission and Affiliation Variables Collected at Follow-Up

	Sponsor	Meetings	Step	Ideology	Sharing	Commitment	Composite
Sex	2.75[a,*]	0.25[a]	0.83[a]	0.18[b]	2.84[b,*]	0.91[b]	3.18[b,*]
Race	1.91[a]	2.38[a]	0.16[a]	0.21[b]	5.92[b,**]	0.81[b]	3.36[b,*]
Drug of choice	4.68[a,**]	1.18[a]	0.35[a]	8.41[b,***]	0.15[b]	0.37[b]	2.59[b,*]
Age	3.28[b,*]	1.32[b]	5.02[b,**]	0.05[c]	−0.02[c]	−0.16[c]	0.01[c]
Years of education	2.06[b]	0.85[b]	0.85[b]	−0.07[c]	0.24[c,**]	0.13[c]	0.13[c]
No. of jobs in the past year	0.05[b]	0.30[b]	0.30[b]	−0.16[c]	0.05[c]	−0.18[c,**]	−0.14[c]
Days unemployed on admission	0.09[b]	0.01[b]	0.01[b]	0.18[c,*]	−0.01[c]	−0.03[c]	0.06[c]
No. of prior treatments	0.35[b]	0.70[b]	0.70[b]	−0.11[c]	−0.02[c]	−0.16[c]	−0.09[c]
Personal control	0.71[b]	0.18[b]	0.33[b]	0.12[c]	0.20[c,**]	0.18[c,*]	0.24[c,**]
Depression	0.16[b]	1.98[b]	0.25[b]	0.18[c,*]	0.02[c]	0.10[c]	0.10[c]

[a]Chi-square.
[b]ANOVA.
[c]Pearson correlation.
*$p < .10$.
**$p < .05$.
***$p < .01$.

terparts (*M*s = −.57, −.15, and −.34 for female, Caucasian, and alcohol-preferring participants, respectively).

Was 12-Step Group Affiliation at Follow-Up Related to Program Satisfaction and Completion?

Links between the affiliation and treatment-related measures are reflected in Table 4. As shown, "sponsor" was significantly related to program completion and job satisfaction and marginally related to staff support. The RTP was completed by 51% of participants with a sponsor versus 26% of those without a sponsor. Further, participants with a sponsor also reported more job satisfaction (M = 4.73) and tended to report more staff support (M = 4.01) than did those without a sponsor (M = 4.18 and 3.59 for job satisfaction and staff support, respectively).

"Meetings" was marginally related to program completion. The RTP was completed by 57% of participants who exceeded the meeting attendance expectation versus 39% of those who merely satisfied this expectation. "Step" was unrelated to the treatment satisfaction and completion variables.

"Ideology" was marginally related to peer support as participants who expressed more acceptance of the 12-step ideology reported more peer support. Ideology was also marginally related to program completion as participants who completed the RTP tended to report more acceptance of the 12-step ideology (M = 4.97) than did those who did not complete it (M = 4.79).

"Sharing" was positively, albeit marginally, related to peer support and job satisfaction. Participants who expressed more comfort with sharing also tended to report more peer support and job satisfaction. On the other hand, "commitment" was positively related to peer support such that participants with more commitment reported more peer support.

Finally, the affiliation composite was significantly related to peer support, job satisfaction, and program completion. Participants with higher overall affiliation reported more peer support and job satisfaction. Participants who completed the RTP also reported more overall affiliation at follow-up (M = .33) than did the noncompleters (M = −.26).

DISCUSSION

Affiliation with 12-step groups is a complex phenomenon that includes both subjective and behavioral features. This study assessed these features with multiple measures and then examined them in relation to relevant sociodemographic, psychological, and treatment variables. An empirically weighted composite of these measures was expected to yield the most comprehensive and robust measure of 12-step group affiliation.

Table 4.

Cross-Sectional Relations between the Satisfaction Measures and the Affiliation Indicators as Well as the Affiliation Composite

	Sponsor	Meetings	Step	Ideology	Sharing	Commitment	Composite
Peer support	1.59[b]	1.80[b]	0.14[b]	0.18[c,*]	0.17[c,*]	0.19[c,**]	0.31[c,***]
Staff support	2.77[b,*]	1.11[b]	0.01[b]	0.15[c]	–0.05[c]	0.07[c]	0.15[c]
Job satisfaction	7.06[b,***]	0.04[b]	1.88[b]	0.03[c]	0.19[c,*]	0.08[c]	0.21[c,**]
Program completion	4.1[a,**]	2.34[a,*]	0.24[a]	29.0[b,*]	1.1[b]	0.12[b]	5.11[b,**]

[a]Chi-square.
[b]ANOVA.
[c]Pearson correlation.
*$p < .10$.
**$p < .05$.
***$p < .01$.

The relative robustness of the different affiliation measures can be evaluated by comparing their relations with the other study variables. Accordingly, the affiliation composite and the "sharing" indicator were both significantly or marginally predicted by four of the ten predictor variables assessed at admission. Each one of the other indicators was related to fewer admission variables. Because three of the four relations involving the sharing indicator but only one of the four involving the affiliation composite were significant at the .05 level, the sharing indicator appeared to be the more robust of the two measures in terms of predicting 12-step affiliation.

On the other hand, both the affiliation composite and the sponsor indicator were related to three of the four programmatic measures (i.e., two satisfaction measures and program completion). All three of the relations involving the composite, but only two of the three involving the sponsor indicator, were significant at the .05 level. Thus, the composite appeared to provide the most robust measure of affiliation in terms of relations with the programmatic variables. Considered along with the results for predicting affiliation at follow-up, the weighted composite of indicators appeared to provide the best overall measure of 12-step group affiliation.

Besides illustrating the complexity of 12-step affiliation and its measurement, this study documents that such affiliation has cogent implications for addiction treatment. Relations between the admission and composite measures identified participants who were less apt to affiliate strongly with 12-step groups. Specifically, participants with low personal control on admission showed less 12-step affiliation than their counterparts. Moreover, women, Caucasians, and alcohol-preferring participants also tended to show less 12-step affiliation than did men, African-Americans, and cocaine-preferring participants, respectively. Because the less affiliated participants had a minority status within this RTP and the 12-step groups that were most accessible in the surrounding community, they may have been less comfortable affiliating with them. Consistent with this assertion, Humphreys and Woods (1994) found that the racial status of prospective participants in 12-step groups interacted with the racial composition of the most readily available groups to predict affiliation tendencies. More specifically, African-Americans had higher affiliation levels than Caucasians in urban areas where 12-step groups were heavily attended by other African-Americans, and Caucasians had higher affiliation levels in rural areas where 12-step groups were heavily attended by other Caucasians. Given these findings, future research should examine why persons are reluctant to participate in 12-step groups that are heavily composed of participants of a different race.

The positive relations between the affiliation and satisfaction measures indicated these variables were either causally related to one another or else mutually related to some third motivational variable. Ideally, future research

should rely on experimental designs to illuminate the specific nature of relations between these variables.

Of course, research should ultimately examine whether 12-step groups for addiction actually assist persons to reduce substance use over time. As with the findings presented above, associations between the affiliation and drug consumption variables would have important implications, potentially allowing for interventions that would increase affiliation and long-term sobriety among treatment participants.

NOTES

1. The RTP admissions coordinator informed participants when they enrolled that they would be expected to complete questionnaires for treatment and program evaluation purposes. None of the participants in the initial sample refused to complete the questionnaires at admission or follow-up.
2. The number of days between completing the admission and follow-up questionnaires ranged from 57 to 64 (M = 59 days). Participants who remained in the RTP through the follow-up did not differ on the admission variables from those who departed prior to the follow-up.
3. The indicators referred to 12-step groups in general rather than a specific type of group such as A.A., N.A., or C.A. as the RTP did not advocate participation in one type more than any other. Further, participants tended to attend more than one type of group and tended to perceive the different types of groups as being similar (Kingree and Ruback, 1994).

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RESUMEN

Siete medidias, una de las cuales fue peseda en combinación de las otras seis, fue usada para medir doce pasos del grupo de afiliación entre los participantes en un tratamiento de un programa en 120 días. Los participantes completaron los seis indicadores de las afiliaciones y los tres medidias de tratamientos satisfactorios pasando el punto medio donde se halloran en el programa, después completaron varios social y demográfica y sicológicas medidas en admisión y antes de que fueran elegidos al completan el programa. Comparando en cada uno de los seis indicadores, la medida de combinaciones fue más fuerte relacionada al social, demográfica, tratámiento los factores. El tratamiento y ciéntifico implicados fueron discutidos.

RÉSUMÉ

Sept dispositions de traitement dont une est une partie complementaire des six autres, one été utilesées afin de classer les participants en un groupe reporti en 12 niveaux dans un programme de desintoxication de 120 jours. Les participants ont complétés les six criteres de classification et trois dispositions de traitement satisfaisant á la hoitié de la durée de leur participation au programme, aprés la journée d'eváluation permettant de completer les diverses données psychologiques et sociodémographiques précédant leur admission, et

pour qu'ils soient aptes á terminer le programme de traitment. Compareé á chacune des six autres, la mesure complementaire est bien plus fortement liée au programme, a la satisfaction, á la reussite, et aux données sociodémographiques avec des variations au niveau de l'achevement du programme. Le suivi du traitement et les implications empiriques sont en cours d'examen.

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Classic-Historical Articles, Reviews, and Documents

Review of E. Preble and J. J. Casey, "Taking Care of Business—The Heroin User's Life on the Street," *International Journal of the Addictions*, 4: 1–24 (1969)

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Key words. Street ethnography, Lower class heroin users; Heroin distribution, Vulnerability; Disturbed personality

"Taking care of business" is one of those papers which comes along at a specific juncture and changes the direction of thinking and work in a field. The impact of this paper on the field of substance misuse has been profound. This influence can be traced to two main areas: 1) on a theoretical perspective on the heroin misuser and 2) on fostering a methodology and tradition of research studies expanding upon this perspective.

CONCEPTUAL SHIFT

The Older, Disturbed Personality View

For much of this century, the dominant perspective on substance misuse viewed the misuser as a troubled individual who lacked the personal and social skills to cope successfully with the pressures of daily living. This disturbed personality view of nonmedical drug use can be traced to the early work of such psychiatrists as Kolb (1925), Felix (1944), and Glover (1949), and, closer

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to the time of Preble and Casey's work, the work of Rado (1957), Ausubel (1958), and Chein et al. (1964). They viewed substance misusers, primarily, as individuals who were unable to relate to conventional others, or the pressure of society, in ways that prevented their becoming involved with substances. Chein et al. (1964, pp. 13–16) gave clear expression to this perspective in summarizing the findings of their important study of thirty 16-to-20-year-old heroin addicts and twenty-nine control sample youths in inner city, high drug use areas in the New York City boroughs of the Bronx, Manhattan, and Brooklyn:

> Their home life is conducive to the development of disturbed personalities, which they display in abundant measure. Relationships between parents are far from ideal, as evidenced by separation, divorce, overt hostility, or lack of warmth. In almost half the cases, there was no father and no other adult male in the household during a significant portion of the boys' early childhood. As children, they tended to be over-indulged or harshly frustrated. The parents were often unclear about the standards of behavior they wanted their sons to adhere to and tended to be inconsistent in their application of disciplinary measures.
>
> . . . The evidence indicates that all addicts suffer from deep-rooted, major personality disorders. Although psychiatric diagnoses are apt to vary, a particular set of symptoms seems to be common to most juvenile addicts. They are not able to enter prolonged, close friendly relations with either peers or adults; they have difficulties in assuming a masculine role; they are frequently overcome by a sense of futility, expectation of failure, and general depression; they are easily frustrated and made anxious; and they find both frustration and anxiety intolerable. To such individuals, heroin is functional; it offers relief from strain, and it makes it easy for them to deny and to avoid facing their deep-seated personal problems. Contrary to common belief, the drug does not contribute rich positive pleasures; it merely offers relief from misery.

The Substance Misuser as Socioculturally Motivated Actor

In contrast to the disturbed personality view of addiction, research in the 1950s and 1960s in a number of different urban areas in the United States began to identify a variety of background, cultural experience, social context, and economic factors which highlighted how drug use relationships were established and maintained. Rather than viewing heroin addicts as being vulnerable to addiction by virtue of their personal deficiencies, these studies identi-

fied the meaningfulness of the drug life within these areas—a view which was given most articulate expression in Preble and Casey's classic article.

These early sociocultural studies uncovered wide variation in the role of illicit drugs in the cultural, social, and economic components of slum life. For example, the rich work of Blumer et al. (1967) and Sutter (1966, 1969) found the Oakland, California street scene in the mid-1960s to contain different types of users, various sets of practices, different perspectives on drug taking, the use of a variety of substances, and a diversity of lifestyles. It was found that a selection process was operating to move youths from the rowdy (or violent) lifestyle of alcohol user to the way of the "cool" drug user of marijuana, culminating, for some youths, in becoming a "righteous dope fiend" (Sutter, 1996). As they moved through the different levels of the Oakland drug scene, youths were seen as motivated by their quest to achieve the recognition and self-esteem that came from realizing culturally valued behavior. Rather than highlighting drug use in slum environments as representative of a form of personal pathology, or retreatism from the larger society, patterns of drug involvement were seen to reflect a sense of personal affirmation. Drug users were involved in a peer-oriented social learning experience, in which they were "schooled" into new patterns of drug taking by their more knowledgeable friends.

The findings of Blumer and his associates were also consistent with the results of Finestone's (1957) study of Chicago "cool cats," and Feldman's (1968, 1973, 1977) research into the place of heroin in working class areas of Boston. These studies confirmed that drug use represented an important way of affirming one's toughness and was an important route to social position and prestige in the inner city areas.

Preble and Casey's paper was a brilliant, convincing presentation of the sociocultural perspective on the drug life of the inner city. But it was much more than a masterful articulation of this perspective. Based on extensive interviews and participant-observation of addict patients undergoing treatment at Manhattan State Hospital , and 12 years experience in ethnographic street work and research in the lower-class neighborhoods from which most of the patients came (the East Harlem, Lower East Side, and Yorkville sections of Manhattan, and the Claremont section of the Bronx), Preble and Casey were able to develop an insightful history of heroin use in New York City. They also presented a compelling picture of the various economic activities surrounding the distribution and use of the drug, as well as the lifestyle of the lower-class heroin user.

Preble and Casey's analysis of the distribution of heroin in New York City remains as one of the most illuminating descriptions of this illegal industry ever produced. Their discussion of the various levels of distributors, the chain of supply, adulteration process, and profit margins at each distribution level, as

well as the other types of workers involved in the drug distribution system, is richly detailed and convincing—and has served as a model for other studies in the field (cf. Johnson et al., 1985).

Preble and Casey's data and discussion contradicted the prevalent view of the heroin addict as a troubled personality seeking an escape from life. As they observed (Preble and Casey, 1969, pp. 2, 3, 21, 22):

> Their behavior is anything but an escape from life. They are actively engaged in meaningful activities and relationships seven days a week. The brief moments of euphoria after each administration of a small amount of heroin constitute a small fraction of their daily life. The rest of the time they are aggressively pursuing a career that is exacting, challenging, adventurous, and rewarding. They are always on the move and must be alert, flexible, and resourceful. . . . He is hustling (robbing or stealing), trying to sell stolen goods, avoiding the police, looking for a heroin dealer with a good bag (the street retail unit of heroin), coming back from copping (buying heroin), looking for a safe place to take the drug, or looking for someone who best (cheated) him—among other things. He is, in short, *taking care of business*. . . . For them, if not for their middle and upper class counterparts (a small minority of opiate addicts), the quest for heroin is the quest for a meaningful life, not an escape from life. And the meaning does not lie, primarily, in the effects of the drug on their minds and bodies; it lies in the gratification of accomplishing a series of challenging, exciting tasks, every day of the week.
>
> . . . The activities these individuals engage in and the relationships they have in the course of their quest for heroin are far more important than the minimal analgesic and euphoric effects of the small amount of heroin available to them. If they can be said to be addicted, it is not so much to heroin as to the entire career of a heroin user.
>
> . . . The career of a heroin user serves a dual purpose for the slum inhabitant; it enables him to escape, not from purposeful activity, but from the monotony of an existence severely limited by social constraints, and at the same time it provides a way for him to gain revenge on society for the injustices and deprivation he has experienced.

Although they appreciated the value of treatment for heroin users (e.g., antagonists or opiate substitutes, psychotherapy, self-help groups and educational, vocational training, and placement), Preble and Casey believed the ultimate solution to the heroin problem, which they felt resulted from "social injustice" (Preble and Casey, 1969, p. 23), rested in the development of legitimate occupational opportunities for those individuals who wanted them.

FOSTERING A METHODOLOGY AND TRADITION OF FIELD RESEARCH

A key component of Preble and Casey's methodology, briefly noted earlier, was life-history interview with individual respondents. Preble had developed these field work and interviewing skills in his training as an anthropologist at Columbia University, and in psychotherapy at the New York School of Psychiatry. His considerable ethnographic street work and research experience in the lower-class neighborhoods from which most of the Manhattan State Hospital Drug Addiction Unit patients came were major resources in the completion of the "taking care of business" paper; and they helped establish Ed Preble as the grandfather of drug use(r) research ethnography.

This classic paper and the Preble's related methodological works (Preble, 1979, 1980), together with his training of other anthropologists and field workers, influenced a rich tradition of research. It has enriched the field through the efforts of such notable researchers as Agar, *Ripping and Running: A Formal Ethnography of Urban Heroin Addicts* (1973); Waldorf, *Careers in Dope* (1973); Hughes, *Behind the Walls of Respect* (1977); Stephens, *Street Addict Role: A Theory of Heroin Addiction* (1991); and Goldstein, "Ethnoeconomical approach to the relationship between crime and drug use: Preliminary findings" (1979a), and *Prostitution and Drugs* (1979b).

Preble and Casey's paper also raised numerous questions about the economics of crime among heroin abusers, "their purchase, use, and sale of drugs; their income from criminal and noncriminal sources; their expenditures for legal and illegal purposes; and the economic consequences of their activities" (Johnson et al., 1985, p. 10). Preble, an early member of the editorial board of the *International Journal of the Addictions*, joined Bruce Johnson at Narcotic and Drug Research, Inc., in New York City in 1975. There he became affiliated with the economics of crime by heroin users project which addressed these issues; and he pioneered the storefront methodology which was critical to the success of this important study (Johnson et al., 1985).

EPILOGUE

Bruce Johnson dedicated the book resulting from the economics of the heroin project to Ed Preble, who died in 1982, noting: "He has contributed much to many lives. His work will continue to influence the lives of other professionals in the years ahead" (Johnson et al., 1985, p. vi). These words are as true today as they were over 10 years ago.

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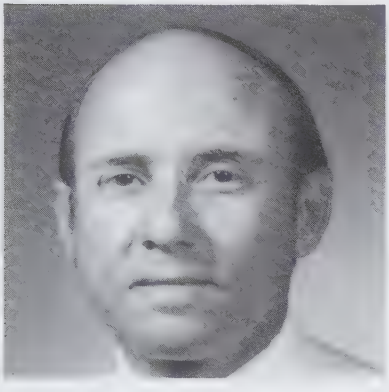

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Toward the Year 2000

Need for a Scientific Basis for Alcohol-Involved Problem Prevention Including a Consideration of Cost and Effectiveness

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ABSTRACT

This editorial calls for two priorities for alcohol and drug "abuse" prevention in the Year 2000. First, all prevention programs and policies should be required to demonstrate scientific evidence of potential effectiveness before public or private funds are committed. This evidence can be based upon controlled, fully replicated research, or early evidence, not fully replicated, or even a causal theory which is supported by basic research. Second, the cost/effectiveness of prevention programs and policies should be determined. This requires a documentation of actual costs of design and implementation as well as a determination of any reduction of alcohol and drug-use(r)-associated problems resulting from purposeful prevention activity.

Key words. Prevention: Cost/effectiveness; Outcomes; Evaluation; Prevention science

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As the field of "substance abuse" prevention approaches the Year 2000, an honest assessment of the status and needs of prevention should be made. In the aggregate, changes in alcohol-involved problems in most industrialized countries have not been the result of purposeful prevention programs or alcohol policies. There has been a reduction in per capita consumption of alcohol in many countries, and (not surprisingly) a reduction in alcohol-involved problems, including hospital admissions and drinking and driving crashes (Edwards et al., 1994). For the most part, these reductions, especially in developed countries, appear to be the result of cultural and, in some cases, economic factors largely independent of purposeful prevention efforts.

Of course, there are exceptions. In the United States the establishment of a uniform minimum drinking age of 21 for all beverages in all states has resulted in lower drinking and driving crashes among this group (O'Malley and Wagenaar, 1991; and US General Accounting Office, 1987). Monopoly sale of alcohol in the Scandinavian countries of Sweden, Norway, and Finland has resulted in higher alcohol prices and reduced alcohol availability (Holder et al., 1995).

But for the most part, prevention programs to reduce alcohol problems have not been notably successful in reducing the extent of alcohol problems at the community, state, or national levels. (See reviews by Moskowitz, 1989; Holder, 1994.)

In my opinion, this results primarily from two factors. First, the development of alcohol problem prevention programs and policies is rarely based upon the scientific evidence in existence. Many preventive programs are funded by public and private funds with little scientific evidence of potential effectiveness. Second, there is little attention to the cost of prevention activities and, more importantly, the relation of cost and effectiveness. The following establishes priorities which address these issues.

The lack of a scientific basis for prevention activities is not the result of lack of scientific evidence. In the area of alcohol policy alone, a substantial research literature exists. The most recent review of such alcohol policy research is provided by Edwards et al. (1994) and Holder and Edwards (1995). The problem, from my point of view, is the lack of desire and demand for scientific justification for any prevention activity which uses human and monetary resources. Even volunteer activities have costs associated with them. Most efforts in both alcohol problem and drug use prevention are designed in a way so as to provide personal satisfaction, and in some cases, public attention for the professionals and staff involved. There is no question that personal enthusiasm and excitement are key ingredients in any prevention effort. However, enthusiasm alone is not sufficient for effective prevention. In fact, in some cases, personal enthusiasm may not even be necessary. In other words, the

personal satisfaction which comes to people who carry out prevention programs is not the major criterion for program planning and should, in my opinion, only be a factor when the program itself requires it.

What should be done to address this first priority? All prevention programs in the Year 2000 should be required to demonstrate feasibility of effectiveness before *any* funds are committed to them. The highest evidence would be prior scientific studies (evaluations) which are replicated in multiple conditions and consistently demonstrate the effectiveness of the proposed prevention activity or policy. Short of this standard, the next level of evidence would come from promising scientific research (perhaps not substantially replicated) and theory which supports the potential of the prevention activity to be effective. The lowest minimum level of support should be a clear statement of the theory or conceptual model on which the prevention effort is based. This third level should also require that the scientific evidence from basic research supports the potential of the program to be effective based upon this theory.

I recognize that this is a stringent requirement of proof for prevention. Most prevention planners will object to such requirements and appropriately point out that all the necessary research has not been completed. Preventative action cannot wait until all research has been done. But this does not remove the burden and responsibility to establish the necessary requirements for scientifically demonstrating the potential of our prevention efforts. This is especially true in a time of scarce economic resources and a time of changes in international economic arrangements which can erode existing national alcohol policies. For example, membership in the European Union for Sweden and Finland, and agreements with the EU for Norway, have and will continue to have substantial effects on existing alcohol policies in these countries.

In the end, alcohol preventive programs and policies are made within political processes which reflect popular interests, values, and beliefs. In addition, the economic interests of the alcohol industry and from existing national conservative political movements certainly advances prevention consistent with these interests. Scientific evidence can only be used to inform the public debate. Science cannot make the final decision. However, even if final decisions about prevention efforts are made within political processes, this does not rule out the need to require the best scientific base for such decisions.

The second priority for the Year 2000 is the need to consider the cost of prevention efforts and to evaluate these costs against their demonstrated effectiveness in reducing alcohol-involved problems. This priority requires attention to documenting the true cost of design, implementation, and operation of a prevention program or policy. While proposed budgets are usually required to obtain funds from a public or private institution to support prevention, actual

costs in practice are not usually monitored or documented. So first, the actual cost to design, implement, and operate the program should be a required part of any prevention effort.

This priority should also require that all prevention programs or policies document their actual effectiveness in reducing alcohol-involved problems in practice. This means distal outcomes, not intermediate variables. A change in attitude or support for a prevention effort is *not* evidence of effectiveness. Increased numbers of participants in meetings, or exposure to communication, information, or increases in knowledge levels are not evidence of effectiveness in reducing alcohol-involved problems. While a requirement of distal effectiveness would place considerable intellectual and economic burden on some programs, we cannot escape the need for such demonstration. Anything short of a demonstration of effectiveness in alcohol and other drug problem reduction runs the risk of providing only personal satisfaction for the program staff and designers. An exception to this can be achieved via a well-defined theoretical model in which changes in an intermediate variable, e.g., increases in information levels, can be shown to reduce the risk of future alcohol-involved problems, e.g., rates of intoxication and thus alcohol-involved injuries.

The last step is the actual joint consideration of the cost/effectiveness of a prevention program. For example, what is the relative cost effectiveness of a variety of programs to reduce alcohol-involved traffic crashes. Low-cost alternatives may have high or low effectiveness and should not necessarily be implemented on the basis of cost alone. On the other hand, expensive prevention programs should not be presumed to be more effective. Even if expensive programs are effective, the relative cost to achieve reductions in alcohol problems should be considered along with other lower cost alternatives with similar potential effectiveness.

While I have used alcohol-problem prevention as my referent throughout this paper, I believe that the same standards also apply to drug use and drug problems. The prevention of drug-use(r)-involved problems has the additional difficulty by occurring in a highly charged political atmosphere in many developing countries, especially in North America. That does not mitigate the need for the same scientific standard for prevention of drug abuse.

I recognize that these two standards for alcohol-problem prevention in the Year 2000 are high and would require changes in the priorities for funding and for prevention program and policy design and implementation. However, without bold steps for the 21st Century, we stand ready to repeat the prevention failures of the last half of the 20th Century. Using the standards described in this article would represent a strong commitment to change the "business as usual" approach to prevention which has become the norm.

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RESUMEN

Este editorial requiere dos prioridades para la prevención del abuso del alcohol y drogas en el Afio 2000. Primeramente, se debe requirir que todos los programas de prevención y pólizas demuestren evidencia cientifica de su posible eficacia antes de que fondos públicos o privados sean comprometidos. Esta evidencia puede ser basada en estudios controlados que han sido completamente duplicados, evidencia inicial que no ha sido completamente duplicada, o incluso una teoría causal apoyada por estudios básicos.

La segunda prioridad requiere la justificación de costos de programas de prevención y pólizas. Esto requiere la documentación de los costos verdaderos de diseño y ejecución, incluyendo la determinación de cualquier reducción de problemas relacionados con el alcohol y drogas que resulten de actividades útiles de prevención.

RÉSUMÉ

Cet éditorial demande que deux points doivent avoir préséance quand on parle de prévention de l'abus de la consommation de l'alcool et de l'usage des drogues en l'an 2000. Tout d'abord, tous les programmes de prévention et tous les systèmes de politique devront témoigner d'une manière scientifique une certaine efficacité potentielle avant que des fonds privés ou publics soint engagés. Cette preuve pourarit être basée sur des recherches contrôllées, totalement redoublées, sur une des résultats préliminaires non complètement redoublés ou même sur théorie causative soutenue par une recherche de base.

Ensuite la justification du coût des programmes de prévention et des systèmes de politique devra être déterminée. Ceci exige une documentation de frais réels du plan d'action et de son exécution ainsi que la preuve qu'il y a eu une réduction quelconque des problèmes dûs à la consommation de l'alcool et de la drogue qui résulterait d'une campagne de prévention bien calculée.

THE AUTHOR

Harold D. Holder, Ph.D., is Director and Senior Research Scientist of the Prevention Research Center (PRC) in Berkeley, California. Dr. Holder's studies have covered a number of alcohol policies, e.g., the impact of changes in the retail form of wine and spirits availability on drinking and alcohol-involved traffic crashes, the prevention potential of alcohol server liability, the effect of mandated server training on alcohol-involved traffic crashes, and the role of environmental strategies as part of comprehensive approaches to prevention. Dr. Holder is directing a 5-year national community trial to prevent alcohol-involved injuries and deaths. This project involves three experimental communities and three matched comparison communities in a true partnership of community organization and research driven prevention intervention in four areas: drinking and driving, responsible beverage service, underage sales, and alcohol access. Dr. Holder is one of the first researchers to undertake controlled studies on cost and economic benefits of alcoholism treatment. He has authored a number of research papers on alcoholism treatment cost/offset (the potential of alcoholism treatment to lead to reductions in overall health care costs which

can reduce or offset the cost of alcoholism treatment itself). Dr. Holder has been chosen by a board of distinguished scientists as the recipient of the 1995 Jellinek Memorial Award for his research on social and economic factors of alcohol consumption and impact of changes in alcohol availability on alcohol problems.

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Social Pharmacology

The Rules of Drug Taking: Wine and Poppy Derivatives in the Ancient World. II. Wine-Induced Loss of Control and Vigilance

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ABSTRACT

The loss of control, the misjudgment of events, and the lack of vigilance were among the effects of drunkenness that the Ancients percieved as being particularly harmful. The sexual behavior was mainly affected by the loss of control: rape, incest, and fulfillment of a tragic oracle were examples of the ruinous outcome of drunkenness. Excessive drinking, besides the intervention of a god, was considered responsible for a temporary loss of judgment, which could be fatal for the drinker. Finally, several mythological examples were provided to support the view that drunk people were harmless in front of the enemy.

WINE-INDUCED MISJUDGMENT AND LOSS OF CONTROL

In the ancient world the negative consequences of wine-induced loss of control were seen principally in sexual behavior. Several literary sources associated drunkenness with a socially unacceptable disinhibition of sexual behavior. In the *Metamorphoses*, for instance, Ovid (1951a) tells us that Eurytus,

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"wildest of the wild centaurs," invited to a wedding banquet, was excited by drunkenness and assaulted the bride. A furious quarrel broke out and the centaur was hit in the face with a crater: "He, spouting forth gouts of blood along with brains and wine from wound and mouth alike, stumbled backward upon the reeking ground" (Ovid, 1951b). There is also an Homeric version of the episode, which differs in that Eurytus had the nose and ears cut by his hosts before being thrown out (Homer, *Odyssey* XXI, 300–302). Now a guest's attempt to rape the bride during a wedding banquet is an extreme example of the well-known loss of sexual control induced by alcohol. That this example of sexual assault under the influence of wine took place in a mythological wildness was probably not a casual coincidence, because wild creatures were considered constitutionally on the brink of loss of self-control. Plutarch wrote that "wineless drunkenness is always lurking in the mind of an uncultured man" (Plutarch, 1969). Thus, the location of wine-induced loss of sexual control in the wildness explains why in real life drinking in excess drives civilized people to incestuous love. "Wine, Aphrodite's milk, is pleasant to drink"; but "quaffing too much of this, some conceive an appetite for illicit love"; therefore "Macareus, smitten with passion for one of his sisters for a while mastered his misfortune and restrained himself; but then he took wine for his guide—a general that more than all others leads out men's rashness in front of their prudence; and rising up at night he obtained his desire" (Antiphanes, quoted by Athenaeus, 1969a).

The negative consequences of having sex when intoxicated were extended to the product of conception, as we can infer from Plato's quite amazing description of what we now call the "fetal alcohol syndrome": ". . . It is not right that procreation should be the work of bodies dissolved by excess of wine, but rather that the embryo should be compacted firmly, steadily and quietly in the womb. But the man that is steeped in wine moves and is moved himself in every way, writhing both in body and soul; consequently, when drunk, a man is clumsy and bad at sowing seed, and is thus likely to beget unstable and untrusty offspring, crooked in form and character" (Plato, 1952). We also have an important mythological example that goes very well with this passage of Plato. Of course, it is Oedipus, who was emblematically "crooked in form and character." As is well known, the oracle of Delphi had warned Laïus not to generate, because his son was destined to kill him. Realizing the danger, he did his best to avoid any fertile intercourse with his wife Jocaste and even began to practice homosexuality. "Yet he, to passion yielding, flushed with wine, beget a son" (Euripides, 1950a) and the oracle was fulfilled. Thus, a single episode of intoxication was enough to invalidate all Laïus attempts to avoid his fate.

It is worth noting that the father's loss of control that led to the birth of the "fated son" (Pindar, 1946) corresponds to Oedipus' outbreak of anger that led to Laïus' death (Euripides, 1950b). This fatal symmetry equates drunkenness with the madness of anger in that both conditions led victims to ruin by obscuring their rationality. The Greeks appeared to be particularly impressed by the outbreaks of irrational behavior that suddenly occurred in even the most self-controlled people. They called this temporary, but fatal, madness *ate* (Dodds, 1951): "Eldest daughter of Zeus is Ate that blindeth all—a power fraught with bane; delicate are her feet, for it is not upon the ground that she fareth, but she walketh over the heads of men, bringing men to harm, and this one or that she ensnareth" (Homer, 1948). It is rather obvious that blaming the gods for the outbreak of *ate* was due to the lack of any rational explanation for such a sudden ruinous psychological event. It was definitely more logical to attribute a role to wine: "an evil doom of some god was my undoing, and measureless wine" (Homer, 1953a). Thus, moving from the archaic period of Greek civilization to more recent times, the diagnostic power of *ate* became less important while wine appeared as the direct cause of madness. One of the most relevant historical example is the tragic end of the Spartan king Cleomenes: "In a fit of intoxication, Cleomenes took the weapon and set about gashing himself from his shins upwards; from the shin to the thigh he cut his flesh length ways, and from the thigh to the hip and the flank, till he reached the belly and cut it into strips; thus he died"(Herodotus, 1950; see also Athenaeus, 1969b).

NEGATIVE CONSEQUENCES OF WINE-INDUCED SLEEP

Sleepiness caused by too much drinking differs from physiologic sleep under many aspects, and the common sense summarizes these differences in the difficulty that people have in awaking when deeply intoxicated. Ancient literature made extensive use of this hypnotic effect of wine and, typically, the sleepy intoxicated person found himself helplessly in the hands of his enemies. A classical example can be found in Virgil's *Aeneid* IX where the Rutulians were "stretched along the grass in drunken sleep" (Virgil, 1954), and became the harmless prey of Nisus and Euryalus.

Wine-induced sleep is sometimes the result of a trick which can even trap a god, as typically happened in tales from the ancient Middle East: "The Storm-god besought all the gods: 'come yet to my aid! Let Inaras prepare a celebration! He made everything ready on a grand scale: amphorae of wine, amphorae of beer. . . . The Dragon Illuyankas came up with his children and they ate and drank. They drank every amphora dry and quenched their thirst. Thereupon they are no longer able to descend to their lair. Hupasiyas came and

trussed the dragon Illuyankas with a rope. The Storm-god came and killed the Dragon Illuyankas" (Pritchard, 1969). A Greek version of this story is in an Orphyc tale that takes us back to the age when wine had not yet been discovered: Kronos was intoxicated with fermented honey and, when he fell into a stupor, his son Zeus put him in chains and castrated him (Kern, 1922). Note the similarity of the Oedipus and Kronos tales: in both cases the father (Kronos or Laïus) was afraid of being overthrown by his son (Zeus or Oedipus) and in both cases a single episode of drunkenness threw caution to the winds. The story of the fraudulent intoxication of Kronos also points up some analogies with that of Polyphemus who was drugged and blinded by Ulysses (Homer, 1953b). The analogy is also extended to the fact that both Kronos and Polyphemus used to eat their victims, a custom emblematic of the most untamed wildness. The fact that wine was instrumental in their defeat is a first example of the civilization role that the Greeks attributed to it (see Part III).

Incidentally, note that the Polyphemus episode is not only an example of the terrible consequences of intoxication, but is also associates excessive drinking with loss of sight. When Polyphemus, overwhelmed by wine, falls asleep, he is blinded by Ulysses with a burning rod. Why blinded and not killed? It may have been just for practical reasons: only the monster could clear the entrance of the cave from the enormous stone that blocked it. However, we should also consider that the Ancients considered drunkenness (at least chronic drunkenness) as a cause of blindness. In listing very important tipplers in history, Athenaeus quoted Dionysius the Younger, tyrant of Sicily, "who ruined his eyesight with wine." (Athenaeus, 1969c). And Martial: "Phryx, a notorious tippler, was blind, Aulus, of one eye, and blear-eyed in the other. Heras, his doctor, said to him: 'beware of drinking; if you drink wine you will not see at all.' Phryx laughed, and said to his eye 'Adieu.' Immediately he orders eleven measures to be mixed for him, and frequently. Do you ask the result? Phryx drank a vintage, his eye venom" (Martial, 1947). Martial's epigram is amazing in that it seems to summarize the recurrence of amblyopia in alcoholics. We know that chronic ingestion of ethanol is among the causes of retrobulbar neuritis of the optic nerve, which produces a monolateral loss of sight, either partial or total ("deficiency amblyopia": Harrison, 1991). Being mediated by the loss of thiamine connected with malnutrition, this condition may relapse, causing a complete blindness. However, we cannot be so sure that the Ancients were aware of this specific toxic effect of wine, because even opium was considered a cause of blindness, as pointed out by Pliny: "Diagoras and Erasistratus have utterly condemned it [opium] as a fatal drug, forbidding its use . . . on the ground that it is injurious to the eyesight. Andreas has added that the only reason why it does not cause instantaneous blindness is because it is adulterated at Alexandria" (Pliny, 1951). Thus, it is possible that wine-

induced blindness was a metaphor for the loss of consciousness associated with "heavy" drinking.

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RESUMEN

Los antiguos estimaban que la pérdida de control, los errores de valoración y la disminución del estado de vigilancia eran efectos especialmente nocivos de la ebriedad alcohólica. El concepto de pérdida de control se refería sobre todo a la conducta sexual, y como ejemplos de sus terribles consequencias se señalaban el incesto, las violencias sexuales - duramente castigadas - y el cumplimientode de trágicas profecías. La imporvisa pérdida de racionalidad que podían llegar a padecer hasta los mejores ingenios, con graves consequencias para el sujeto y su grupo social, se imputaba a la doble intervención de un dios y de la ebriedad alcohólica. Finalmente, numerosas son los ejemplos de borrachos, incluso de naturaleza divina, presa inerme del enemigo.

RÉSUMÉ

Dans l'Antiquité la perte de contrôle, les erreurs d'appréciation ainsi que la diminution de l'état de sobriété, étaient considérés commes des effects particuliérement nocifs de l'ivresse alcoolique. "Perte de contrôle" se référait essentiellement au comportement sexuel; parmi ses conséquences néfastes on comptait l'inceste, la violence sexuelle - sévèrement punie - et l'accomplissiment de prophéties tragiques. La perte soudaine de rationalité qui parfois touchait même les esprits les plus lucides, avec de graves conséquences pour le sujet et le groupe auquel il appartenait, était attribuée à l'action conjointe d'un dieu et de l'ivresse alcoolique. Nombreux sont enfin les exemples d'êtres ivres, même de nature divine, inermes, en proie à l'ennemi.

RIASSUNTO

Gli antichi ritenevano che la perdita di controllo, gli errori di valutazione e la riduzione dello stato di vigilanza fossero effetti particolarmente nocivi della ebrezza alcolica. La perdita di controllo interessava soprattutto il comportamento sessuale e ad esempio delle nefaste conseguenze di essa erano indicate l'incesto, le violenze sessuali duramente punite e il compimento di tragiche profezie. L'improvvisa perdita di razionalità che a volte colpiva le menti migliori, con gravi conseguenze per il soggetto ed il gruppo di appartenenza, era imputata al confluire dell'intervento di un dio e dell'ebrezza alcolica. Numerosi sono infine gli esempi di ubriachi, anche divini per natura, preda inerme del nemico.

THE AUTHOR

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Research Note

Why and In What Context Adolescents Obtain Alcohol from Adults: A Pilot Study

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ABSTRACT

Four focus groups involving 26 male and female high school seniors were conducted to provide insight into the context and settings in which alcohol is provided to youth, and why some youth choose certain sources of alcohol over others. Adults over the age of 21 years were the most common source of alcohol used by participants. Participants believed that it was less risky to ask an older adult to purchase alcohol than to attempt to buy it themselves. Few restrictions were placed on youth when alcohol was provided by an older adult. Youth may seek certain alcohol sources when they perceive that alcohol is available and risks of obtaining it are low.

Key words. Adolescents; Alcohol; Access

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INTRODUCTION

Despite increases in the minimum drinking age, alcohol remains readily available to youth in the United States. A number of studies have found that higher availability of alcohol is associated with greater alcohol use and related problems (Ashley and Rankin, 1988; Clements and Selvanathan, 1991; Coate and Grossman, 1988; Cook and Moore, 1992; Maddahian et al., 1986; Wagenaar, 1983); other studies have reported no associations between alcohol availability and reductions in alcohol use and alcohol-use-related problems (Ames et al., 1992; Moskowitz, 1989; Vingilis et al., 1992). Restricting youth alcohol access may provide an effective strategy to reduce alcohol use and related problems among youth. Restricting youth alcohol access will require knowledge of sources used by youth to obtain alcohol and the context and settings in which it is provided. Few studies, however, have examined these issues, and the studies that are available have been descriptive or limited in their generalizability (Forster et al., 1995; Pruesser and Williams, 1992; Wagenaar et al., 1993).

In 1991 we initiated a 5-year randomized community trial, Communities Mobilizing for Change on Alcohol (CMCA), which was designed to reduce youth alcohol access by altering local alcohol practices and policies in seven communities in Minnesota and Wisconsin (Wagenaar et al., 1994). This project provided a rare opportunity to examine, in depth, sources of alcohol for underage drinkers.

Baseline survey results from the CMCA Project indicated that individuals over 21 years of age were the most common alcohol source (54%) for 12th grade respondents. Recognizing the advantages of multiple data collection strategies, and the need to collect additional information on the settings and situations in which alcohol was obtained from adults over 21 years of age, CMCA staff conducted a series of focus groups with youth in two CMCA project communities. The conceptual model informing our study is shown in Fig. 1. The model is based on systems theory which suggests that multiple subsystems interact and influence how youth obtain alcohol (Anderson and Carter, 1990).

METHODS

Subjects for the focus groups were voluntarily recruited by school staff from four senior high school classes at two randomly selected CMCA intervention communities. The four focus groups ranged from seven to eight participants. Following the focus group dialogue, each participant was paid $10 for his or her participation. Two university staff led focus group sessions. Sessions were conducted on each campus after school hours and lasted approxi-

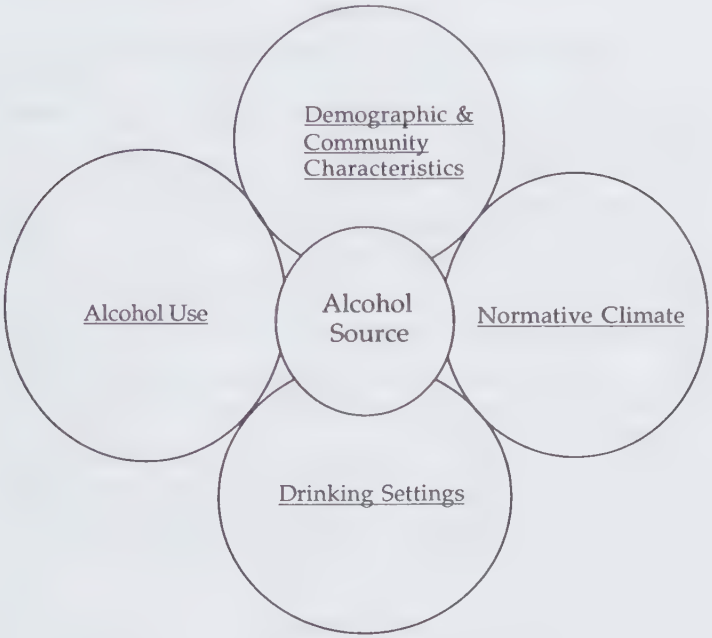

Fig. 1. Conceptual model of youth alcohol sources.

mately 1 hour, and the confidentiality of participants was assured. All discussions were taped and subsequently analyzed.

Focus group questions were developed in advance with the assistance of CMCA community organizers and university project staff. Questions primarily focused on components of our conceptual model: alcohol use, drinking norms, sources of alcohol used by youth, and drinking settings (Table 1). Standard techniques for analyzing focus group results were employed (Krueger, 1988).

RESULTS

Focus Group Participant Characteristics

In total, six males and 20 females participated in four focus group discussions in the spring of 1993. The number of focus groups conducted were adequate to obtain data on sources of alcohol used by youth (Krueger, 1988). About three-quarters (75%) of the participants had part-time jobs, and all respondents indicated they planned to attend college upon graduation from high school (Table 2). A majority (75%) of students reported drinking an alcoholic

Table 1.

Questions Used to Stimulate Focus Group Discussions

1.	Think back to the last time you were at a social gathering such as a party or wedding, what was the most popular drink that was served?
2.	Do any of you have concerns about alcohol use in your community?
3.	What are some of the reasons your friends give for drinking?
4.	Do you or your friends have personal rules surrounding drinking?
5.	Do your parents give you any rules about drinking?
6.	When is it okay for someone your age to drink? to get drunk?
7.	Where do students your age get alcohol and where do they drink it most often?
8.	When you want to drink or purchase alcohol, do you stay in your community or go elsewhere?
9.	How common is it for an older person to provide alcohol to someone your age?
10.	What are some of the situations in which you or someone you know might obtain alcohol from an older friend or family member?
11.	Some people in _____ think that underage drinking is a problem. If the community really wants to cut down on underage drinking, what should they do to make that happen?
12.	What do you think you could do to reduce alcohol problems in _____.?
13.	What might be a strong enough reason for a young person not to drink?

beverage in the past month. Some participants did know one other, but were not close friends.

Sources of Alcohol

When asked, "Where do students your age get alcohol?," a majority of participants indicated that alcohol was obtained primarily from friends, siblings, and coworkers over 21 years of age. The reasons participants gave for using adults over the age of 21 years to obtain alcohol were that it was "more convenient, safer, and less risky" than purchasing it themselves or obtaining it from other sources (e.g., someone under 21 years of age, home). Participants believed that a legal age adult was less likely to be asked for age identification. Few restrictions were placed on youth when alcohol was provided by an older adult. Only two respondents indicated that they were warned about drinking by an older friend, sibling, or coworker who provided them with alcohol.

The process of obtaining alcohol from an older friend, sibling, or coworker was usually not planned, but occurred spontaneously. Participants or their peers would simply ask friends or associates as opportunities arose to provide them with alcohol. Participants tended to rely upon the same individuals to purchase alcohol (i.e., each nonabstainer participant had their own steady source of alcohol). One participant commented, "Yeah, everybody kind of know who to go to." Alcohol was generally purchased for a specific event, e.g., a party.

Table 2.

Demographic Characteristics of CMCA Focus Group Participants (in percent)

	High School I (n = 11)	High School II (n = 15)	Total (n = 26)
Sex:			
Female	91	67	77
Male	19	33	23
Plans after high school:			
College or tech school	100	100	100
Work	0	0	0
Employment status:			
Unemployed	30	21	25
Employed	70	79	75
Parental education:			
No college	30	36	33
College	70	64	67
Drank in the past month:			
No	10	36	25
Yes	90	64	75

Alcohol also was obtained at parties (e.g., house, outdoor, fraternity), particularly among youth who did not have their own steady source of alcohol. House parties varied in size. Alcohol was generally served in kegs at larger parties. When alcohol was served in kegs, more frequent drinking reportedly occurred. Outdoor parties were generally held in open fields and included large numbers of youth. Fraternity parties were more common among High School 1 participants than High School 2 participants. (High School 1 was located in a college town). Parents were generally not present when alcohol was consumed at house, outdoor, and fraternity parties.

Three participants indicated that they knew of friends who obtained alcohol from parents. Five participants indicated, however, that it was not uncommon for parents to provide alcohol for special occasions, such as holidays or prom parties. One parent collected keys from youth when alcohol was served at parties. Most participants indicated that their parents did not object to their drinking during special occasions, but some nevertheless felt uncomfortable drinking in the presence of their parents.

Two participants indicated that they personally attempted to purchase alcohol from alcohol outlets, convenience stores, or bars. Particular alcohol outlets and college bars were known, however, to sell alcohol to underage youth. Two participants indicated that underage peers who appeared older were able to purchase alcohol without showing age identification. One respondent

remarked, "I know some places where they don't even check your identification or anything. They just go by if you look like you're 21." When clerks requested age identification, two participants indicated their friends would give an excuse for not having identification.

In general, participants' expectations about enforcement of underage drinking laws were low. Underage drinking laws were thought to be difficult to enforce, and few participants believed that there were serious legal consequences for underage drinking. One participant commented, "Just last weekend we were at this one spot, and it was before many people were drinking. A cop came and said for us to leave, you know. He was real cool about it. But, I mean, like three hours later, everyone was back at the same spot again, you know?"

DISCUSSION

Focus group findings confirmed baseline survey results on youth alcohol sources. Alcohol was readily available, and adults 21 years of age or older (friends, siblings, and coworkers) were the most common source of alcohol used by participants. Participants believed that it was less risky to ask an older adult to obtain alcohol than to attempt to purchase it themselves or obtain it from other sources. Participants' expectations about enforcement of underage drinking laws also were low. Perhaps, youth utilize certain alcohol sources when they perceive that alcohol is readily available and the personal and social risks of obtaining it are low.

Findings should be viewed with some caution. First, focus group participants were primarily female and not statistically representative of a defined population. Future studies should consider using multiple recruitment methods to ensure more diverse samples of adolescents (e.g., articles in school newspapers). Second, our focus groups did not include adults who provide alcohol to youth; future studies may wish to include youth and adults. Third, we did not assess participants' perceptions about the benefits or limitations of reducing alcohol availability among youth. Students may perceive that reducing youth access to alcohol may have certain unintended consequences, such as an increasing use of other substances (e.g., tobacco, illicit drugs). Future studies may wish to evaluate youth perceptions about the practicality, merits, and limitations of this approach.

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RESUMEN

Para entender el contexto y las circunstancias en las que las bebidas alcohólicas son proveídas a los jóvenes y porqué algunos jóvenes eligen ciertas fuentes de alcohol sobre otras, cuatro grupos de discusión fueron conducidos. Estos grupos fueron integrados por 26 hombres y mujeres estudiantes del último año de la escuela secundaria. Adultos mayores de 21 años fueron la fuente más común de alcohol usada por los participantes. Los participantes creyeron que es menos riesgoso solicitarle a un adulto mayor que ellos que compre bebidas alcohólicas, que intentar comprarlas por su cuenta. Cuando la bebida alcohólica fue proveída por un adulto mayor que los jóvenes, estos últimos fueron sujetos a pocas restricciones. Los jóvenes podrian buscar ciertas fuentes de bebidas alcohólicas cuando perciben que el alcohol es disponible y que es poco riesgoso obtenerlo.

RÉSUMÉ

Quatre groupes de discussion comprenant 26 garçons et filles de terminale ont été menés afion de donner un aperçu du cadre dans lequel les jeunes se procurent de l'alcool et des raisons qui les poussent à choisir certaines sources d'approvisionnement plutôt que d'autres. Le plus souvent, les participants se procurent de l'alcool par le biais d'adultes âgés de plus de 21 ans. Les participants pensent qu'il est moins risqué de demander à un adulte d'acheter de l'alcool à leur place plutôt que de le faire eux-mêmes. Lorsque l'alcool est fourni par un adulte, les restrictions imposées aux jeunes sont peu nombreuses. Il semble que les jeunes recherchent certaines sources d'approvisionnement dans la mesure où ils ont l'impression qu'ils peuvent obtenir de l'alcool sans trop de risques.

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